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JOURNAL OF FARM ECONOMICS

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No. 1

RESEARCH IN FARM ECONOMICS AND FARM MANAGEMENT.

W. F. HANDSCHIN,

COLLEGE OF AGRICULTURE, URBANA, ILLINOIS.

To discuss the question of research activities in Farm Economics and Farm Management exhaustively is obviously impossible within the time available for my paper. I shall, therefore, attempt only to touch upon a few of what seem to me the more important questions which have challenged our attention during the past few years.

I am taking for granted, also, that we are vitally interested not only in the abstract analysis of the research needs in farm economics and farm management, but in the problem of securing the funds necessary to a vigorous and somewhat adequate prosecution of a real research program in this field. While we seem just now to be committed to a program of economy in state and national expenditures, we need to keep in mind that the essence of real economy consists in wise expenditures rather than in the horizontal or promiscuous reduction of items in our state and national budgets. If research activities in farm economics and farm management are to meet, in any adequate way, the many and varied demands being made upon our public research institutions, these lines of work must come in for an increasing measure of support from public sources.

That the public is sensitive to the need of such additional funds is evidenced by the growing recognition and support of research activities in agricultural economics by both state and national agencies. The increases in funds and scope of activities of the Bureau of Agricultural Economics of the United States Department of Agriculture during the past few years testify to the constantly increasing appreci-

ation of the subject in our national affairs. The constant, if not rapid, expansion of activities in farm economics and farm management in the State colleges gives further evidence of the same tendencies. Privately supported colleges and universities have shown an ever-increasing interest in the economics of agriculture, as evidenced by their teaching and research activities. Especially significant of the growing popular interest in economics, as applied to agriculture, is the development of departments of research, the making of substantial appropriations to pursue special lines of economic investigation, and the employment of men trained in economics by organizations of farmers and by commercial institutions closely allied to agriculture.

That the States are willing to provide liberal support for research in agriculture is amply proved by the constantly growing appropriations made to the Land Grant Colleges and Agricultural Experiment Stations during the past fifty years. We need only demonstrate to an already appreciative public that research in farm economics, farm management, and allied fields is a good investment to be assured of every reasonable measure of support for the work.

The present active interest on the part of the public in a number of important problems, vitally affecting agriculture, may well lead us to raise the question whether now is not a good time to undertake the study of some of these problems. While I would be the last to hold that popular interest should always be made the basis for the selection of research problems, it seems only logical to assume that we may well give serious consideration whenever the public develops an active interest in any really important question in our field. I say this with full knowledge of the fact that popular interest in such questions is often prejudiced in favor of certain conclusions made in advance of finding the facts. The really important thing, however, in my judgment, is that we get the facts. I have sufficient confidence in the fairness of public opinion to believe that people, in general, are more interested in having the facts than in having their preconceived conclusions verified.

COST OF PRODUCTION STUDIES.

A good case in point is the recent very active interest taken by farmers in cost of production studies. While this interest grew out of the abnormal economic experience of the war, and was stimulated in large measure by the hope that cost of production data would enable the farmer to fix the price of his products, the end result, in my judgment, will be of real benefit to both the farmer and the consumer of farm products.

Most of our leading farmers have already learned that cost of production data can not be made the basis of price fixing in normal times. In fact, many of them appreciate quite fully that the chief value of such data lies in their application to the more efficient production of farm crops and animals.

While many who heralded cost of production studies as the forerunner of the economic millennium for the farmer will no doubt be disappointed at being thus rudely disillusioned, they will not be without some advantage in the marketing of their products, as well as in their production, as a result of these studies. As farmers become more thoroughly organized to market their products they will have increasing need of a basis for intelligent bargaining. Cost of production data will no doubt be one of the factors used by such farmers' organizations in pricing their goods intelligently.

Even though we assume that supply and demand operate, in the main, to fix prices with a fairly high degree of accuracy, few students of the problem would maintain that these two factors did more than fix such prices within reasonably narrow limits, even under the most favorable circumstances. Within these limits the prices actually received are determined in large measure by the bargaining strength and skill of buyer and seller. Under these conditions cost of production data, including a knowledge of differential cost for individuals and regions, will be of value in helping the farmer to develop a scientifically sound basis for pricing his products.

What farmers' organizations, as well as most industrial organizations, still need to learn is that in the process of price determination between large groups possessing more or less monopoly advantages, it is just as important to the seller that the price finally agreed upon be not too high as not too low. The profits "not made" by many industrial concerns, which sought to maintain war prices during the past year, bear eloquent testimony to the thesis that high prices do not necessarily mean profits and prosperity.

In the meantime cost of production studies go on. We are accumulating a great mass of facts which are of immediate value in developing more efficient methods of producing farm crops and animals. The application of the data resulting from these studies to a more scientific determination of prices remains largely to be made in the future. The important fact is that the data will be available when the time comes for making such use of them as will be helpful in the question of price determination. This is doubly important when we reflect that five years of cost of production data can not be secured in three months.

COST OF DISTRIBUTION STUDIES.

Investigations in the cost of *distributing* farm products should also be pushed as rapidly as possible. This is important, not only because the farmer and the consumer of his products are both vitally interested in the question, but also because so little really accurate information upon which to base improvements in the distributive process is now available. Before we can have any reasonably adequate basis for planning improved systems of distribution we must have the facts regarding the cost of the various steps in the distributive process. We must also have accurate information as to the cost and relative efficiency of the different systems of distribution now in use.

Such information would enable us to make a somewhat careful analysis of the whole problem and to determine at what points in the process improvements should be made to insure the greatest possible economies with the minimum investment of time and money. In our attempts to increase the economy of distribution, just as in improving the economy of production, we must recognize clearly that the greatest gains in proportion to the expense involved will result in making application at the point of the limiting factor in the process.

In improving the economy of production, for example, we say there is little use for the farmer who is already growing crops successfully to spend additional effort improving his crop production if his live-stock feeding operations, his use of labor, or some other important factor in his business is limiting returns by a relatively wider margin. In order to make the greatest and most economical gains in either production or distribution, we must allocate the factor which is limiting by the widest margin. If improvement can be made at this point, maximum results can be secured with the minimum of expenditure.

This principle is, of course, only a restatement of the great law of diminishing returns. It differs from the usual statement of the law only in that it lays the emphasis upon allocating the point of the greatest possible increase in returns, rather than the point of diminishing returns. As we say in our office parlance, it is "seeing the doughnut instead of the hole."

Cost of distribution data, therefore, should be of great value in helping all who are interested in the improvement of the distributive processes. Such data will help to furnish a scientific basis both for making wise choice as to the point of attack and in developing maximum efficiency in such plans as are evolved to improve on the present systems of distribution. The chief value of cost of distribution data, as is the case with cost of production data, will lie, in my judgment,

in their application to the improvement of methods of distribution, rather than in their value as a basis for price fixing or bargaining.

THE FORM OF THE FARMERS' MARKETING ORGANIZATION.

Other important phases of the marketing problem should be brought under more careful investigation. I can take the time here to call attention to only one of these. I refer to the question as to what form or forms the farmers' marketing organization shall take in order to best serve his purposes.

The large development of the coöperative form of farmers' marketing organization in the United States, during recent years, shows plainly the tendencies in the development of the farmers' collective marketing activities. We have only to note that the 1920 Census reports more than 500,000 farmers making sales through some form of coöperative marketing agency to appreciate how significant has been this development.

The figures become even more significant when we study the development of this movement on the basis of its geographic distribution. In Minnesota, for example, more than 43 per cent of all farms reported selling through coöperative organizations; while in Michigan, Wisconsin, Iowa, North Dakota, South Dakota, Nebraska, Kansas, and California the percentage of all farms which marketed some of their products through coöperative organizations ranged from 20.3 to 27.1 per cent.

In view of these figures, it is evident, despite the lack of knowledge with reference to many phases of the coöperative marketing problem, that the farmers of a number of our most important agricultural States are thoroughly committed to the coöperative form of organization for marketing farm products.

That collective action in the marketing of certain farm products is desirable has come to be somewhat generally accepted. This belief is based not only upon the longer and somewhat more comprehensive experience of older countries, but also upon a very considerable amount of successful experience gained in several regions of the United States and Canada during the past 20 years.

We need to inquire, however, into the question as to whether the coöperative form of organization is in every case, and for all purposes, the best form of collective marketing agency for the farmer.

If recent developments in the organization of the farmers' collective selling agencies are a fair index to probable future procedure, we may assume that the coöperative form of organization will be in

large measure supplemented by the corporate form. This seems to be true, especially, when the organization becomes large in point of membership and the extent of its geographic distribution. The Dairymen's League of New York and the United States Grain Growers, incorporated in the State of Delaware, are illustrations of farmers' collective agencies which have taken corporate rather than coöperative form.

It is yet too early to hazard more than a guess as to the extent to which farmers' collective selling agencies will take either coöperative or corporate form. It is important, however, that we begin studying the problem from the standpoint of determining both the possibilities and the limitations of these two and, perhaps, other forms of marketing organization.

We need to know, for example, whether coöperative organizations are of necessity going to be limited for best results to the more elementary and local phases of the farmers' collective selling plans. We need to know, also, whether the corporate form of organization, under our conditions, will be better adapted to the larger and more highly organized collective marketing agencies. If we may judge by the experience in other industries, we shall undoubtedly find that the corporation is essentially better adapted to the larger plans which the farmer may undertake in attempting to gain a greater measure of control in the marketing of his products.

The development of the corporate form of farmers' collective selling agency carries with it, of necessity, grave problems of public interest. In the little experience gained to date in development of farmers' marketing corporations, I have been much impressed with the evident tendency to lay large stress upon the statutory laws to be observed and to pay little, if any, attention to the economic laws involved in the plan. Those responsible for some of these corporate marketing organizations have evidently failed to appreciate that the violation of economic laws draws punishment just as sure, and often more summary, than that meted out by the department of justice when statutory laws are violated. I would not minimize the importance of conformity to statutory law. I would only emphasize the need for giving proper attention to economic laws as well. If the farmers' marketing organizations, both coöperative and corporate, are to succeed for any length of time worth while, their plans must be safe economically as well as legally.

These are but a few of the many important phases of the farmers' marketing problem. They illustrate, however, some of the difficulties

involved, as well as the possibilities of investigational work in this largely unexplored field of activity.

LAND PROBLEMS.

The study of our land problems should occupy, in the future, an increasingly large place in our research activities in agricultural economics. Although it is usually difficult to interest a new country in a scientific study of its land resources and their effective utilization, that nation is fortunate, indeed, which undertakes such studies before its population begins to crowd upon its resources for food production. Such a nation is the United States.

A large amount of valuable information is already available regarding some of the most important aspects of our land problems. The census affords an enormous amount of data on land classification, the geographic distribution of the different classes listed, the utilization of land for different crops in the various regions, the tenure relationship between the land and those who operate it, the valuation of all farm land as estimated by the owner or tenant, and other items of major importance.

A number of public research institutions have also made valuable contributions to the study of land economics. Notable among these have been the University of Wisconsin and the United States Department of Agriculture. Several State colleges have also made a promising, even though modest, beginning in the systematic study of the subject.

What is needed is a comprehensive study of the whole question of our land problems on a nation-wide scale, in order that we may have a sound basis for developing an intelligent national land policy. The individual States will, of course, need to make investigations into their own peculiar land problems. The Corn Belt States, for example, in many sections of which the percentage of tenancy is entirely too high to provide the best opportunity for young men to advance from the status of laborer or tenant to ownership, need to make a comprehensive study of the tenure problem in its various ramifications. The Cotton Belt States, which constitute the other extensive region in which too high a percentage of tenancy presents a serious economic and social problem, are greatly in need of similar studies. While the tenure problem is quite different in these two regions, it is of fundamental importance in both. It will require detailed study, if we are to have the basis for developing plans which shall lead to the improvement of the present unsatisfactory conditions.

Other land problems of national, regional, or local importance will need to be included in our program for the systematic study of this, in many respects, most fundamental of our economic questions. Time permits me to dwell in some detail upon only one of our other land problems—one, however, which is almost everywhere of outstanding importance. I refer to the question of land valuation.

I appreciate that he who essays to discuss the question of valuation at any point, particularly the valuation of farm land, is, indeed, looking for trouble. I have been more and more impressed, however, during the past few years, with the importance of developing somewhat more scientific procedure in valuing our farm lands. Even though, in the very nature of the problem, we can not arrive at any valuation which will be wholly satisfactory, I believe we should attempt to work out some general method of procedure or formula which shall be based, as nearly as possible, upon all of the factors which have an important bearing on the valuation of farm lands. I need only call attention, I believe, to a few facts regarding the present methods of valuing land to show that any formula developed need not even approximate 100 per cent accuracy to be a vast improvement over the present procedure.

The land boom which occurred in the corn belt section during 1919 need not be cited as the "horrible example" of faulty procedure in land valuation. This was merely an extreme illustration of the overvaluation of goods, which occurred somewhat simultaneously in almost every other industry. It resulted merely from mistaking a temporary for a permanent condition.

If we take the pre-war per acre census values for farm land in Illinois, we note that such values more than doubled during the decade from 1900 to 1910. The same was true for most other Corn Belt States, as well as for the United States as a whole. During this period the population of the United States increased less than 23 per cent. The principal physical change which took place in the land during this period was a somewhat general depreciation in the productive capacity of the soil without a corresponding increase in buildings, drainage, and other land improvements. While the net earnings of farm land, no doubt, increased somewhat during this period as compared with the two or three preceding decades, there is no evidence that such earnings increased in a ratio which would justify an increase of 100 per cent in the selling value of the land.

The 1920 census shows the same general increases in the estimated valuation of farm land for the United States as a whole—*i.e.*, an

increase of nearly 100 per cent as compared with the 1910 figure. For some of the individual States, notably Minnesota, Iowa, and a number of others, the increase was considerably more than 100 per cent during the decade. While these census estimates made in January of 1920 were, no doubt, more than normally inflated on account of the high prices received for farm products during 1918 and 1919, it is, no doubt, true that they had been scaled down somewhat as compared with the prices which were obtained during the peak of the land boom which occurred in July and August of 1919.

The objection may also be made that census values do not represent normal sale values. It is still true, however, that census values do actually represent the values placed upon the land by its owners or their tenant operators. Some preliminary studies, made in the county recorder's office of a somewhat representative corn belt county in Illinois, indicate that the values at which land actually changes hands correspond quite closely with the census figures where the same periods are compared.

The truth seems to be that farmers generally have tended to over-value their land, even when all items of productive value are taken into consideration. The element of safety as to principal is, no doubt, an important factor in leading farmers to be satisfied to capitalize the income of land at a low rate of return—that is, to pay a high price as compared with its earning power. It is obvious that the somewhat constant increase in the selling price of farm land, which has taken place in many sections for more than a half century, is an important factor in influencing farmers to pay more for land than its present productive value. If we analyze this factor a little further, we find that, on the basis of the census valuations, farm land in many agricultural counties of the corn belt has increased in value at a rate equal to 3, 4, and, in some counties, 5 per cent compound interest (compounded annually) during the entire 60 years. If we were to take the 1920 census values, the rate would be even higher. In view of these facts, we can readily see why corn belt farmers are willing to buy land on the basis of a 3 or $3\frac{1}{2}$ per cent return in normal times.

Such increases in value can not, of course, go on indefinitely, especially in view of the already existing high price of land in the corn belt section and the fact that farming is still in the main extractive. In fact, the time has already arrived on many farms when gradually declining yields are a serious factor in cutting down returns. On many of the more progressive farms the replacement charge for commercial plant food elements is already an actual as well as an accounting transaction.

In my judgment, it is highly important that we try to develop some formula or principle of procedure which will better enable us to give proper weight to the several factors which must be taken into consideration in arriving at sound practice in valuing farm land. In this we should have to give proper consideration to the following factors, and, perhaps, others of less importance:

1. The net income of the land after all expenses of production have been met. Obviously this must include reserves for soil depreciation where the system of farming actually results in decreasing the fertility.

2. The prospective average annual increase in value, as based on the experience of the past, should no doubt be given some weight in arriving at present values. In the interest of conservative procedure, however, a factor of safety should be used to scale down such estimated future increases, even where the prospects are favorable for their full realization. Where the farming is largely extractive, where new competing areas are being developed, or where other conditions promise to decrease the earnings of the land under consideration, it might be necessary to eliminate the factor of appreciation entirely. Under extreme conditions, a factor of depreciation, rather than appreciation, might be used.

Needless to say, such calculations of value could be made only on the basis of somewhat careful accounting investigations. In this great care would have to be taken to avoid capitalizing the return of the management factor, as well as that of the land, in estimating its value. Many a farm has been bought on the basis of a high return in the hands of its owner, which proved a disappointment to its purchaser because he did not purchase the management skill along with the land.

So far we have discussed only the production or objective values of farm land. It is obvious that any formula developed must leave the question of consumption values, such as favorable sites, social conditions, or other factors of personal preference, almost entirely to the subjective estimate of the individual.

These are but a few of the difficulties involved in the problem of developing a somewhat scientific procedure in valuing farm land. My only excuse for discussing the problem seriously before this body is the urgency of the need and the fact that I am expecting only improvement rather than perfection.

FARM ORGANIZATION.

While the present interest in the cost of production, marketing, and land problems may well be made the occasion for laying somewhat special emphasis upon research in these fields, we should be making a serious mistake, in my judgment, if we did not continue to prosecute as vigorously as possible our investigations in farm organization.

With the present low price of farm products, and the prospect that there will be no great recovery in such prices during the next few years, the most important single consideration before the American farmer today is that he reduce his costs of production to the lowest possible point consistent with good farming. Much has already been done to make this adjustment. Farm labor costs have been reduced to somewhere near the pre-war level in several important farming regions. In others the adjusting of farm wages to somewhere near the level of prices for farm products has still to be made.

Further adjustments, particularly in the cropping systems employed, must be made as rapidly as possible. The acreage of legume crops, such as the clovers, soy beans, cow-peas, and alfalfa, should be almost everywhere increased. Such readjustments will not only assist in restoring some of the fertility removed by the extractive farming of the war period, but they will help to adjust production of the cereal and other non-leguminous cash crops, such as cotton and tobacco, more nearly to the demands of normal consumption. With average yields the present large surpluses of these crops will shortly disappear. In the meantime the farmer will be beginning to build up a soil reserve which will enable him to produce larger yields, when such production again becomes somewhat more profitable.

Such balanced systems of crop production, combined with the production of live stock, which must be the system of farming practiced by the great majority of all farmers, will tend better to utilize all crop material produced. Such farming systems will also help to insure a more even distribution of man and horse labor throughout the year. Since man and horse labor constitute from 60 to 80 per cent of the total operating expense in general farming, any adjustments which exert a favorable influence on these two items must be given special consideration.

The most important lesson which the farmer will need to learn during the next year or two—and if I mistake not, this applies equally to the industrial producer—is that profits are determined quite as much by low costs as by high selling prices.

We need to develop, on the basis of carefully conducted investiga-

tions in every important farming region, systems of farming which shall combine soil maintenance, low cost per unit of product, and the largest possible measure of insurance gained through diversified production and a high degree of flexibility, both in producing crops and in marketing them through farm animals or otherwise, in accordance with market conditions obtaining.

One of the factors which makes this problem peculiarly difficult is the fact that there are more than 6,000,000 farms in the United States. Each of these farms requires, on the average, somewhat less than two men to operate it. Thus more than one half of the total number of persons employed in the entire industry must be possessed of sufficient management skill to assume practically complete responsibility for the entire entrepreneurial functions in the business. As contrasted with industrial establishments in general, where not more than one person in five or six is required to take direct responsibility for some other workers or for making dividends on the capital invested, this lays a special burden of responsibility upon agricultural production. As long as farms are small and the units of management must be relatively so large in number as compared with other industries, we shall have special need for somewhat well-defined and standardized systems of farming adapted to the various regions of the country.

These facts but emphasize the need for a high degree of intelligence on the part of farmers generally if our program for agricultural production is to be both permanent and profitable.

In conclusion, I wish to point out that we must first get the facts regarding the more fundamental aspects of our various problems in the production and distribution of farm products, if we would make real progress. Such facts can be secured with reasonable expenditures of time and money only through a soundly conceived and comprehensive program of research in farm economics and farm management. Without such facts we shall have to learn largely by the more expensive and frequently disappointing route of experience.

On the basis of the facts which would be made available by a research program, somewhat as I have outlined, we need to develop, through our extension agencies and by every other available means, an active, constructive plan of procedure, which will not only help to correct present evils, but which will enable us also to avoid others in seeking the remedy for those we now have. What we need, if I may borrow a medical term, is more preventive as well as more curative economics for the farmer.

SOME FACTORS OF SUCCESS IN CORN BELT FARMING.

C. L. MEHARRY,

ATTICA, INDIANA.

Gentlemen: I must ask this association to accept my paper as the contribution of a layman, an ordinary farmer making no pretense of being an economist. I came in appreciative response to the flattering invitation of your president, well knowing that your meeting will furnish me educational advantages I could ill afford to miss.

My subject is not of my own choosing. Success in any successful sense of the term seems quite like the study of ancient history. Possibly it may have been that President Handschin suspected that I had seen so little of success at close hand recently that my perspective should be better than that of some others.

The factors of success in farming are so varied in character that it may be well to mention a few of them briefly. Several have already been ably discussed, and mere mention is almost unnecessary. One of these is the problem of credit, and in my opinion the phase of this question which should give the average farmer most concern just now is how he may go successfully about helping to contract a large part of the credit already advanced him.

Another factor already discussed is that of price, involving the problems of transportation and distribution, and of coöperative marketing. My fear is that in this last direction we may have moved so fast that our perspective may have become distorted, preventing us from distinguishing progress from retrogression. It is only by collective action that the farmer may hope to influence these factors, and our influence may not prove to be as powerful as we have dreamed. If it does so prove, it will need to be most righteously and discreetly exercised, or it may prove a dangerous boomerang in inexperienced hands.

But there *are* factors of success over which the individual farmer may hope to exercise considerable control, and it is chiefly of these that I shall speak. Chief among these is the factor of cost of production. He may influence this factor both directly and indirectly; *directly*, by reducing his expenditures without decreasing his production, and *indirectly*, by increasing per acre production without a corresponding increase in expenditures.

Under the indirect phase of cost reduction come such problems of farm management as the adjustment of systems of rotation and fertilization to the end that the fertility of the soil may be maintained and increased, thus raising per acre production by a cumulative process. Such systems, too, should equalize the distribution of labor, thus making it possible for a given number of workers to produce more goods.

Another factor of success may be the diversification of crops and enterprises as an insurance against calamitous losses in any one year.

Still another may be the prevention of wastes by the utilization of by-products and bulky materials, and their fabrication into salable and transportable finished products.

During the years of the great war and since, when adjustment and readjustment of economic conditions have come about with lightning-like rapidity, not the least factor of success has been the ability of the farmer to adjust his practices and his crops and enterprises so to meet conditions as to avoid loss.

Certain other factors of which I may speak briefly in conclusion are not so easily defined, not so readily influenced, and far less frequently recognized than those I have outlined. It may even be out of order to discuss them here, but I feel that they *do* deserve mention as very influential factors of success in farming.

REDUCING COSTS.

Let us discuss some phases of the factor of per unit production costs. Often they may be lowered by the elimination of certain useless or unnecessary operations, such as the capping of wheat shocks. Perhaps this practice is a survival from the day when there was a greater intervening time between the cutting and thrashing of grain. In those days the custom may have been economical, but it certainly increases the labor outlay for shocking a fourth or more, and frequently leads to a further labor cost, because generally a large number of caps must be replaced after a storm or removed to facilitate drying.

On our Illinois farm, where soy beans are part of the system, we bind the beans as we do wheat, but let the bundles fall singly, eliminating the bundle carrier. We follow the binder with a wheat drill, drilling wheat seed directly into the stubble ground without mechanical preparation of the seed bed, which we once thought necessary, but which was really a hindrance, besides being expensive. The bundles of beans thus fall on ground already seeded to wheat. Be-

fore we owned our own separator, and could depend upon hulling promptly, we felt compelled to set the bundles up in shocks. Moving a sheaf of soys means loss of seed by shattering, and sometimes before they were hulled the *shocks* had to be moved and reset to avoid killing the wheat beneath. Now, we leave the bundles where they fall until collected on racks to go to the separator, or until weather conditions make it necessary to set them up into shocks.

Sometimes cheaper methods can be substituted for expensive ones, saving a *part* of the labor cost of an operation. After trying out various relatively high-priced straw spreaders, Mr. Riegel, who is in active management of our Illinois farm, concocted a crude but simple and cheap arrangement of poles that serves the purpose as well as the best machine we tried out. The same amount of labor used with this home-made contraption spreads many times the straw the elaborate machines handled.

The two-row cultivator, in the hands of an intelligent operator, cultivates twice as much corn as a single-row implement, and the rotary hoe makes it possible for a boy to cultivate almost three times as many acres of soy beans or corn as a man with a single-row cultivator.

Perhaps one of the most wasteful institutions of corn belt farming is that of the big thrashing ring. Generally careless help makes it impossible to save the grain that should be saved, and the indifferent, carefree attitude of a large number of somewhat transient employees, when assembled in a gang, is appalling. Indeed, so is that of some farm owners! Our cost accounting made us realize it more than ever before. The year before we retired from the big ring we paid out, for labor alone, 8 cents per bushel for the thrashing of our wheat. The first year we were out of the ring the same item amounted to 1½ cents per bushel. The delays we used to endure before getting our crop thrashed were positively nerve racking, purse wrecking, too, at times! Our last oats crop became a total loss, due to delay occasioned by the big thrashing ring. Custom rigs never did us a first-class job of bean hulling, but now that we have our own small separator, we are able to do relatively a perfect job. The saving in quantity and quality on a few soy bean crops alone will pay for the machine.

Often animal labor may be substituted for man labor in harvesting crops, effecting a big saving. Clover that we used to cut and make into hay we now let the live stock consume in the field. Cattle, hogs, and sheep are more effective corn pickers than men, and the beauty

of it is they seem to enjoy paying for the privilege. Manure is better distributed, at no cost, and otherwise unavoidable losses in fertility are prevented. When we winter feed hogs in a dry lot we use a big self-feeder holding 6 or 7 thousand bushels of corn, which serves two purposes, that of granary and self-feeder. The cost is less than for small self-feeders per unit of capacity, and labor of an extra handling is saved.

Elimination of useless fences has saved us much in repair costs and weed control. When we again need small lots or fields we feel that we can more economically remake them than maintain them. A certain amount of fence moving is justified by the amount of interest money saved on mere capital investment.

Special or local conditions may sometimes be turned to account in reducing expenditures. A former efficient employee, with a family of several reliable boys, has now rented a small neighboring farm. After this man's work is done, he and his boys are glad to put in what otherwise might be many idle hours working for us. We pay them more money than our resident employees, but the additional compensation would not cover the perquisites the man would get, were he living on our place, and the board of his boys. This family has increased its income; we have decreased our expenditures; the benefit is mutual. To mention another instance of special conditions which has afforded opportunity for saving, economic maladjustment has made corn temporarily so much cheaper than gasoline as a source of tractive power that many have used it while tractors stood idle. Incidentally this may be calculated to have some effect on the price of corn eventually.

These have all been examples of direct reduction of costs. But by carefully planning and revising systems of rotation and fertilization and animal enterprise it may be possible *indirectly* to reduce per unit production costs by increasing per acre production without a balancing outlay. Records of yields on our Illinois farm are not available prior to 1909, but I am satisfied that it is now as easy—and less expensive, so far as hours of labor is concerned—to grow 72 bushels of corn per acre—as we did this year—as it formerly was to grow 50. If the 50 bushels paid cost of production in 1909, were the present cost of labor and equipment the same as then, and were the price of the corn the same, then the additional 22 bushels would surely pay well for the purchased fertilizer added in the form of raw rock phosphate and limestone! There were lots of "ifs" in that sentence, but, at any rate, if there has been no great gain, there must be a big saving from loss.

Our increasing yields have been very gradual, the cumulative results of a rational system of management, in which the rather lavish use of legumes and the addition of phosphorus have played leading parts. Gradually we have learned how to employ more and more legumes profitably, so that where originally we had a legume on the cultivated area two years out of four, we now employ them *every* year. Our rotation has become: first year corn, with soy beans planted in every hill, followed the second year by soy beans alone. In the fall of this year wheat is seeded in the soy bean stubble, and the following spring a clover mixture is seeded in the wheat. This clover, especially sweet clover, usually grows large enough to furnish some pasturage after harvest and stands over to complete the four-year rotation. This program was adopted only after careful records had proven oats a failure as a money crop under our conditions, and that soy beans cost us very little more per acre to raise than corn (indeed, they have cost less this year), while the gross money value per acre of the bean crop ranges from a little less *some* years to considerably *more* in others—*notably* more this season.

In the fall of 1913 we began keeping a record of all labor. At the end of 1914 we found that our oats crop had cost us a half hour less man labor, but an hour more horse labor per acre than our wheat. The wheat yielded $30\frac{1}{2}$ bushels, the oats $44\frac{1}{2}$ bushels per acre. Translated into the dollar language on the basis of 1914 prices, this meant a gross difference per acre of just \$9. The yields were about average ones as we had experienced them. Taking all costs into consideration, including taxes, depreciation on equipment, depletion of fertility, insurance on equipment and the grain itself, managerial cost, pro-rated odd job expense, etc., we figured we had about raised the oats for nothing, and concluded that as a nurse crop, oats were a failure, because, in the first place, they are not a nurse in any sense, in the second, they did not pay their way for us.

On the other hand, only 3 out of our 13 successive wheat crops have averaged less than 30 bushels, and the average yield for the entire 13 crops, aggregating more than 1,500 acres, has been over 30 bushels, and without the help of a single phenomenal yield.

Our cost records showed that the 1914 crop of soy beans (132 acres) had cost one third of an hour more man labor and 3 hours more horse labor per acre than had our 229 acres of corn. Part of the beans yielded $2\frac{1}{4}$ tons of hay and the rest $15\frac{1}{2}$ bushels of seed per acre. Our corn made 53.6 bushels per acre. By way of comparison, *this* year's crop of beans yielded 29 bushels and the corn

72 bushels. At present prices this puts the legume crop away ahead this year, not considering the difference in the depletion of fertility and value of by-products. An acre's yield of soy bean straw is worth more than 5 acres of stalk pasture.

So it came about that we substituted soys for oats on 10 per cent of the entire acreage of this farm, and for corn on another 10 per cent. A pretty radical change, but made only after careful study and deliberation. This shift has helped us wonderfully in equalizing the distribution of our labor throughout the year, not the least part of which was the substitution of *easy* spring or late fall breaking for soys, for the hard, tedious late summer plowing for wheat. I wish I had more time to discuss this interesting side of this change.

DIVERSIFICATION OF CROPS.

Diversification of crops has saved us several times from painful experiences; for example, we were glad the year we lost our oats crop that we were not practicing the usual corn and oats rotation. Another time when our own ignorance made soys a failure we were glad we had some corn and wheat. Variation of live-stock enterprises is no less an insurance than crop diversification. We endeavor to use all of the meat animals when times are auspicious for live-stock endeavor, and horses and poultry also play important parts in our scheme.

UTILIZATION OF BULKY FEEDS AND WASTE MATERIALS.

Hogs we need to consume and turn our raw concentrates into a finished product, and to a less degree, of course, for the consumption of forage. But as transformers of roughages and waste by-products cattle and sheep are the machines par excellence. Sheep, moreover, save us lots of weed mowing by turning a hindrance into a help. What goes through a sheep seldom grows, but is a great assistance to the growth of planted crops. We find that we can profitably use all classes of meat animals, sometimes not all the same year, seldom all at the same season, but rather suiting each to its *particular purpose* at the *proper season*. Thus, if not perilously high in price, we like to buy sheep in the late summer or fall of seasons like *this*, when weeds are abundant, and sell them in the winter or early spring, after they have done their work and have received a grain finish. We like to feed corn to good quality steers on sweet clover pasture for an early fall market, and to cheaper ones we feed soy bean straw, silage, and cull and cracked beans for an early spring market.

We prefer buying hogs in late fall or winter to hog off corn and beans, and to finish in the dry lot around the self-feeder for a March or April market. Sometimes it is possible to buy pigs in May, June, or July at a reasonable price. They grow splendidly on mixed clover pasture with a light corn ration, and are then ready to finish on a field of early corn and beans some time between September 15 and October 10.

Horses we like to buy thin and in the rough about this season of the year, when they are cheap, carry them through the rest of the winter on soy straw, silage, and cull beans, and be ready to sell good teams in the spring period of scarcity and high prices to those who realize their needs only after emergencies of the crop season make them apparent. This practice usually makes us money, while in former years we used to write off a big annual depreciation from our horse account. As long as it is a source of profit we like to feel that we have available a surplus of horse-power, which we feel is the most flexible tractive power we have. Moreover, instead of depreciating with use, if properly handled, it appreciates from the training it receives.

Last year poultry was the only live stock which gave a satisfactory accounting for us, except where we still raise our own feeder hogs on one or two farms. In fact, feeders of any description during 1919-'20 and much of '21 looked perilously high priced to us, and we practically refrained from buying any from the spring of '19 to the late summer of '21. We are now marketing some sheep which have made money. With the exceptions of these sheep and of poultry, all live stock we have owned since January 1, 1919, has paid the penalty of a falling inventory. The penalty has been comparatively light, however, for with the exception of some young unbroken colts, which could hardly be given away, we did not let the market fall far from under us before letting loose everything that looked top heavy enough to fall. The colts have taught us that, in general, those live-stock investments are safest which give promise of the most rapid turn over.

MAKING ADJUSTMENTS TO MEET CHANGING ECONOMIC CONDITIONS.

This discussion brings us naturally to a consideration of another factor which has played a big part in the success or failure of corn belt farmers the past 5 years, namely, the manner in which they were able or willing to adjust the details of their business to meet the demands of changing needs and economic conditions. Much abuse has been heaped upon the heads of those who have been called "in-and-outers," particularly those who have played a more or less

erratic part in the live-stock game. This criticism, coming from the agricultural press and no less from seasoned steady live-stock men themselves, has been quite general and for the most part pretty well founded. But many of the wise ones who went a never-changing course have now become "down-and-outers" simply because they paid no heed to changing economic conditions. Others have failed because they mistook effects for causes and changed accordingly, or only after it was too late. Changes to meet changing conditions are constantly needed; sometimes the change may be a calm and measured evolution; sometimes revolutionary tactics are necessary. In our hog enterprises we have been faced with the necessity for both types of change.

A few men are still growing the type of hog we started with when we first began farming. It was a type suitable only for an unsupplemented corn ration, and was probably a relic of the day when corn was considered the only useful hog feed. It was the high-qualified, fine boned, compact, pony-built type which is too fat from pignood to rustle for a living. We finally concluded that what we wanted was almost the reverse of this type, a big, long, deep-bodied hog, not too coarse and slow maturing, but the kind that can make good use of legume pasture in hot weather without suffering from sun stroke. As soon as we began breeding for this type we began to realize so much more profit from hogs that we thought if some hogs were good a great many would be very much more worth while. We increased the number of our brood sows to more than 100, and found that our success decreased in about the same ratio that the square of our numbers increased.

The man to whom the job of pig-raising had been delegated was not equal to the added burden we had thrust upon him, and the manager found that it was more than one man's job to properly supervise the spring work on 800 acres of corn belt land and at the same time look personally after the welfare of 100 sows and their pigs. Accordingly we cut down the number of our brood sows to what we thought the man could successfully care for. Then war came, and with it Uncle Sam's guarantee of profit to the hog producer. We decided to supplement our home-raised pigs with purchased feeders, believing that the man who could not raise several hundred pigs to past weaning time *might*, however, successfully feed out that many if they were turned over to him at the weight of 100 pounds. It worked out that way after we learned not to mix the two methods. We fattened out the sows and bought all our feeders. We bought hogs, good, bad, and indifferent, varying the price to cor-

respond with the promise the hog gave of profit. We fed out carloads of Arkansas and Missouri razorbacks which did not make us feel proud until they landed in the bank; and we fed other carloads of Wisconsin hogs that we were never ashamed of.

During this period it was a continual process of study to know how to shift and adjust our methods to suit the different types of animals we were handling. They were as different as daylight from dark. The Southern hog was a little, fine-boned, ill-bred, pudgy animal set on the legs of a race horse and possessing the fighting qualities of a bear when cornered or enraged. One had to deal cautiously with them to avoid serious danger to both purse and person. They were covered with parasites both within and without, which had to be removed before any progress could be made. They had to be nursed carefully along on forage, increasing concentrated feed gradually through four to six weeks before giving free access to corn. After that they seemed to fatten almost over night into fat little hogs of about 200 pounds average weight.

On the other hand, the Wisconsin hog was a vigorous, healthy fellow, that got right down to business without any preliminaries, except vaccination, and kept right on making profitable gains up to about 300 pounds.

The men with whom we dealt in buying these hogs were as different—and often as *difficult*—to deal with as their live stock. Many rapid adjustments of temperament and habits of mind I had to make, as well as changes of farm practice. It was a wonderful experience, a real developer.

Cattle and sheep we dealt in to some extent also during war days, but the soldier wanted chiefly pork, so that was mainly the kind of meat we made. Then, too, in 1917 we had soft corn, and hogs seemed to be the best chance to save it. Luckily we bought our hogs before most people had gone hog crazy, and they made lots of money. Were we to have another soft-corn year we would be very cautious about buying hogs in the expectation that too many people might remember 1917 and its lesson and all feed hogs.

During the war almost anything which could be held in one's possession a short while made money, and the longer it could be held the more it made. When the war ended it seemed but natural that the reverse process might set in at any time, so we became cautious in our buying of live stock and of feeds, whereas we had been almost reckless before. When the slump in live-stock values set in it caught us with two loads of very cheap cattle, cheap because we felt that if readjustment came the drop would not be so precipitous, measured in

dollars, although it might be in terms of percentage. It caught us with but one load of hogs, whereas we had been accustomed to having well up to a thousand at a time during '17 and '18. As soon as we were sure reaction had set in, and that this was not merely a minor decline, we loaded out everything we felt would do to go, thereby saving ourselves from the full consequences of the break.

Later, in November of 1920, Mr. Riegel and I went to the International, at Chicago, wondering if the decline had been sufficient to warrant some cautious investment again. We talked, of course, to all the live-stock men we could and to commission men. We got all sorts of views, but the thing which really determined our course was a long chat with the buyer for one of the big wholesale grocery houses of Chicago. We decided that, with things as bad in manufacturing and wholesale endeavor as he pictured them, the slump was sure to continue and spread, and we went home and immediately sent in two carloads of odds and ends, a few spare cows and their calves, a few home-raised lambs, and, I believe, a few odd hogs. It turned out that the grocery buyer's tale of woe had saved us money.

One of the things the farmer must learn is that all lines of industry and business are so closely correlated that when several others are suffering severely his own can not long escape the consequences. We keep our eye too closely on our own cog in the wheel. If we would but look forward to the cogs of other enterprises, we might more often be warned of approaching dangers, and stop or slow down the machinery before we suffer the full effects of the jolts in store for us. It does little good to pull the throttle after the jolts are received.

Why did not some wise man tell us *last spring* to grow less corn? We were sorely tempted to eliminate corn from our 1921 operations altogether, but our friends made so much fun of us that we merely reduced it about 34 per cent from what it normally would have been. Signs were not lacking early last spring and earlier, it seemed to us, that the world might not need a large crop of corn and oats, but might be short of bread. A "grow less corn" campaign inaugurated *now* but emphasizes a phenomenon the average farmer has had abundant opportunity to witness. Before the trumpet of alarm quits sounding it is quite possible that some lucky farmer may detect symptoms of a growing corn demand, coupled with decreased supply, and may reap a fat reward by *increasing* rather than decreasing his acreage of corn. The writer is not posing as a prophet, nor threatening to pursue this course himself in the immediate future, but he does not intend to keep his eye fixed too steadily on the "grow less corn" propaganda.

"THE PERSONAL EQUATION."

My paper is already too long, but let me mention one other factor of success in farming, as it is a factor in every business. I mean the factor which is generally referred to as "the personal equation."

I suppose I am not expected to mention it, except possibly indirectly. But a man's success is so dependent on his recognition of his own limitations of temperament, and his own capacity for thought and work, that it seems foolish to overlook this factor either as applied to one's self or to his business associates and employees. Without such recognition an ambitious man may undertake more than he can accomplish. Moreover, he may still *more* easily overload his fellow-workers. To this factor belongs that power of discrimination which recognizes and deals with *essentials first*, allowing those things which *can* wait to remain undone until *vital* things have received attention, even though this may involve the subordination of personal inclination and even of pride in appearance. The degree to which the individual succeeds in clearly, tolerantly, and dispassionately analyzing the advice of friends and onlookers, business associates and employees, as well as the statistical data of his own past experiences and that of others, in the light of probable needs of the future, largely determines his success. Were we to carefully inquire into the causes of outstanding success on those farms which we generally recognize as examples of successful corn belt farming, I venture to say that we would, without exception, conclude that the keenness and accuracy of the reasoning of the man, or men, in executive control had been a large factor in that success.

Summarizing the factors of success as measured in terms of dollars, may we say that the chief ones are included in the following?

1. Reduction of the cost of production, primarily by reducing expenditures, secondarily by increasing crop yields with little or no added outlay.
2. Diversification of crops and enterprises as insurance against loss, to afford more elasticity to one's scheme of management, and to equalize the distribution of labor.
3. Prevention of wastes by conversion on the farm of by-products and bulky materials uneconomical to transport into finished marketable commodities.
4. Adjustment of the business to meet changing needs and economical conditions.
5. The personal equation last discussed.

Finally, there is another factor which is not measured in dollars,

but in human happiness and contentment. This is, of course, contingent in large measure upon those factors mentioned before, whose success is measured in terms of money. Some may measure their success as farmers by the number and quality of the adventures in contentment their business has afforded; and who may say that he has utterly failed who has achieved naught but comfort, happiness, and contentment for himself and his family? This is a factor dependent, too, upon that last element of the personal equation, the degree of flexibility, if you please, of the human mind and soul, and the individual's attitude toward life and his fellow-man. This factor includes all those problems of education, religion, fraternity, and community health and welfare. To my mind the attitude in which the individual farmer and his family approach these subjects, and the degree of success with which they deal with them, constitute a large factor in corn belt farming, as indeed they do in life everywhere, but this factor is manifestly out of the realm of present discussion. May I urge, however, that *any* business, or scheme of existence, which heeds not the will of God and the welfare and happiness of our fellow-man can not long be successful, in the fullest sense of the word?

DISCUSSION BY E. C. YOUNG, PURDUE UNIVERSITY.

Gentlemen: My discussion of this paper will be very limited for two reasons: first, I have had insufficient time to study it carefully; and, second, my actual contact with the corn belt dates back only to September of this year. So far my time has been taken up in trying to get to a point where I can appreciate a paper such as Mr. Meharry has presented here this afternoon.

In looking over this paper the one thing that impressed me was his specific treatment of the problems. I presume that a man who continually meets specific problems, as any farmer does, would treat the subject in this way. There is a tendency, I believe, for teachers and investigators to get too far away from the farm and become so general in their interest that it is difficult to apply their findings to particular problems.

In outlining the system of farming on his Illinois farms, I do not believe Mr. Meharry intended to suggest that this system would necessarily fit all or even most corn belt conditions. The point he has made, however, is the necessity of making a close study of one's business. I was very much pleased to note the continual reference in the paper to cost accounts. In the discussion of yesterday I do not remember that the use of cost accounts, as a basis for changes in

farm organization, was even touched upon. It seems to me that this use is almost the only excuse for an individual farmer's keeping cost accounts. Mr. Meharry has found a very real use for cost accounts in helping to fit himself into his local conditions and to adjust his farm practice to changing market conditions.

Mr. Meharry made no mention of the effect of size of business on profits, probably because his experience has been with farms sufficiently large for economical operation. In my observation, most corn belt farmers recognize the desirability of a good-sized business. The limiting factor is often the lack of capital. Our studies of size of business need to be carried further and to include the most economic use of available capital. Especially is this true since land values have reached a point where a farmer unaided can scarcely hope to accumulate enough capital in a lifetime to pay for a good-sized farm.

The one thing that a farmer can do most easily, perhaps, although it may not be the most important, is to organize his business on the farm so as to bring the greatest returns. Much of the paper is devoted to this point. Farm management investigations have very little to offer to a farmer who wants to arrive at the best balance on his particular farm.

Much of the farming in Indiana is primarily grain farming. All of the surveys that have been made have shown that more live stock pays, but no data are available to show just how much. Furthermore, a close study of each of these surveys brings out the fact that the farms having the most live stock also have the most capital. Probably the larger profits on the heavily stocked farms are partly due to more capital. In regions where live stock constitutes the major source of income, usually the farms having a considerable income from crops pay best. The one factor, balance, that farmers will likely respond to most readily has been sadly neglected in most investigations. Many farmers have caught up with us and have passed us in this respect. As land increases in value and as larger amounts of capital become necessary the importance of this factor will increase. When land rents for \$20 per acre, it becomes quite important how it is used. When the capital involved in a farm business amounts to \$100,000, considerable time may well be spent in considering how it can best be used. It seems to me that cost accounts offer about the only satisfactory way of arriving at the best balance for a particular farm. A study of balance made in this way would include a study of labor distribution, as well as crop yields and labor efficiency.

FARM CREDITS.

DR. J. T. HOLDSWORTH,

VICE-PRESIDENT, THE BANK OF PITTSBURGH.

Even before the present business depression which has affected all parts of the country and every type of industry, but which has fallen with especially heavy weight upon farmers, the conviction has been growing that, admirable as our banking and credit machinery has become, by virtue largely of the Federal Reserve System, the financing and credit needs of one group in our economic organism, and that one in many respects the most important, the agricultural group, had not been adequately met. Despite the obvious fact recognized by men of all shades of thinking of the dominating importance of agriculture as our basic industry, upon which the prosperity of all depends, despite the object lesson of successful agricultural credit systems long in existence in Europe and elsewhere, and despite the years of agitation for a more adequate system of farm credits in this country, we have made but slight and slow progress toward the solution of this problem.

Adequate credit and management brains have made our industrial development during the last few decades the marvel and envy of the world. Denied in large measure both of these, our agricultural industry has languished compared with other economic activities. The drift of agriculture from a basis of ownership to that of tenancy has been recognized on the part of far-sighted men who perceive the gravity of the situation. On the side of production, or of the *science* of farming, each decade has marked real progress. The experiments and activities of the Department of Agriculture and of the various State agricultural colleges and experimental stations have raised to a high level of excellence many of the processes of agricultural production and have by means of the introduction of new types of grains and fruits, by the inculcation of better methods of seed selection, by irrigation and reclamation, converted vast barren areas into productive fields and orchards, and have increased enormously our national income.

Our shortcoming with reference to agriculture is rather that we have failed to develop the *business* of farming, particularly upon the

side of economical financing, marketing, and distributing of farm products. To be sure, we have had here and there illustrations of effective coöperation in selling and marketing, even in financing, that have pointed the way to a better order, but in the main the charge holds true that agriculture has lacked business organization and management, and particularly has it lacked adequate farm credit.

In our national economics the question of farm credit has had but small consideration. When it does protrude, as it most assuredly has of late, the casual observer, even the banker, generally speaking, is inclined to dismiss the matter with the statement that the farmer's needs have been well cared for by the establishment of the Federal Farm Loan System, by the agricultural credit provisions of the Federal Reserve Act, and by such recently organized Government agencies as the War Finance Corporation, the Cattle Loan pool, and otherwise. Again you hear it argued that the country banks, the farm mortgage, and the cattle loan companies are meeting the situation by extending the farmer all the credit he deserves.

As already noted, the recent business depression has fallen with particularly heavy weight upon the farmer, the price of whose product has been deflated to distressingly low levels as compared with the price of commodities for which his products must be exchanged. As a consequence there has been a marked trend toward farmers' and producers' organizations and quickened interest in the problem of adequate farm credit to enable the farmer to carry his products for more orderly distribution.

Despite the mistakes made by the agricultural bloc in the special session of Congress recently closed and a certain resulting animosity toward the agricultural group, or at least toward those who would seek to use the farmer and his interests for their own political aggrandizement, the problems of the farmer, particularly those of finance and credit, remain fundamental and clamorous for solution. However much we may disparage the leadership into whose hands farm legislation has temporarily fallen, we can not shut out the pressing need of this, our basic industry, nor close our eyes to the urgent need of a constructive program of relief.

Our system of deposit banking is not adapted to the peculiar requirements of the agricultural industry, nor indeed can it be so adapted in any large or effective way. Deposit banking depends for its safe functioning upon comparatively short-time loans, a large proportion of which must necessarily be of a liquid character. The law governing the operation of deposit banks must conform to and safe-

guard the tested economic principles underlying all such banking. Admittedly commercial banks, whether operating under national or State charter, can not in themselves serve and protect their depositors and the interests they are organized to foster, and at the same time engage in the long-time credit operations required in agricultural credit. Where the local bank is not a member of the Federal Reserve System, nor holds close banking relations with a large city bank, these limitations are still more marked.

It is true that under the sections of the Federal Reserve Act which provide for the rediscount of agricultural paper having maturity of not more than six months a very considerable measure of assistance has been made available to the farmer. Again, the Federal Farm Loan System, the scope of whose operations was restricted by the interruptions of the war and by uncertainty as to the constitutionality of its bond issues, affords the basis for a very large measure of relief. This system, however, is for the most part effective only in the matter of acquiring farm lands and leaves the farmer without the means of equipping and operating his plant. Between the short-time borrowing through the banks, and in turn by rediscounting through the Federal Reserve Banks on the one hand and the long-time borrowing through the Federal Farm Loan Banks on the other, there is a wide and hitherto almost impassable gap demanding a bridge of intermediate credit to meet the farmer's seasonal needs. It is toward this objective that thought and effort must now be directed.

Temporary relief in this situation has been afforded through the operations of the War Finance Corporation. This device, however, must be regarded as only temporary, as must every such device in which the government interposes as a business agency to relieve an emergency. The economic future of this country will be safeguarded in proportion as there is insistence upon the principle that the government shall engage in business only when an emergency makes it absolutely necessary.

Though we have taken the position that deposit banking can not in the very nature of the case serve the needs of the farmer to an extent measurable with that extended to commerce and trade where the turnover is frequent and the security more flexible, it remains true that by adaptation and organization the farmer can approach commercial banks for short-term credit under much more favorable conditions than have obtained heretofore. A primary difficulty that has obstructed the access of the farmer to the resources of the deposit bank has been the lack of grading and warehousing of his product and his

inability or unwillingness, because of his failure to set up an accurate accounting system, to provide the bank with a financial statement of his affairs. The mooted question as to whether it is possible to operate a system of loans to farmers on their three or four months' notes, after the manner of loans to the manufacturer or merchant, has been answered in the affirmative in scores of instances by banks in different parts of the country serving different types of farming activity. Generally this practice has been introduced where diversified farming prevails, or in such types of farming as dairying, where the farmer receives a regular and dependable income. Where there is a steady flow of income in this way as distinguished from the "after the harvest" settlement of the general grain farmer, it is quite possible to operate loans on the basis of three or four months' tenor.

Solution of the problem of short-time agricultural credit has been made easier in some parts of the country and in some types of agricultural activities by scientific grading of products under the guidance of the State agricultural colleges or otherwise and by the provision of adequate warehouse facilities. Some of our great staples like cotton, grain, and tobacco are being brought under adequate grading and warehousing arrangements. On the contrary, one finds in State after State that because of improper storage facilities the farmer is compelled to rush his produce to the market as soon as it is harvested, with the result that he gets in an overflowing market very much lower returns than would be possible were he able with proper storage facilities to hold his produce for orderly distribution. The absence of grading accounts in many cases for the comparatively low return to the farmer for his apples, potatoes, and other staples. The inadequacy of storage or warehousing facilities leaves him dependent upon the wholesale buyer or dealer, and, too, deprives the bank of opportunity to finance the farmers' needs on the basis of warehouse receipts or other title to staple products. More and more banks through their associations and on their own initiative are working upon these problems, as are also farmers' organizations. As a result there is coming to be a better understanding of the problem and a growing disposition to cooperate in its solution.

Surely, even though slowly, the problem of short-term agricultural credit is being evolved, and it may confidently be expected that modifications and adaptations of the Federal Farm Loan System will ultimately provide a large measure of relief in the field of long-time credit. It is upon the twilight zone of intermediate credit that earnest thought and effort must be turned.

The farmer and stockman no less than the manufacturer and trader must have access to credit if he is to make necessary improvements and betterments, to purchase live stock and prepare them for market, to buy feed, seed, fertilizers and implements, to pay his labor, provide for general upkeep, and to meet all the various expenses of a going concern. Many necessary farm improvements, such as irrigation and reclamation, orcharding and stockbreeding, and the like, which are not immediately productive, require credit for terms running from a year to several years. Mortgage banks meet this need in part, but, generally speaking, they prefer to make their loans in larger sums, for longer periods, and upon improved property. The increased facilities of the national banks under the Federal Reserve System whereby they are authorized to make farm loans in their vicinity are, however, restricted to improved and unincumbered properties, and total loans of this character are limited to 25 per cent of the bank's capital and surplus, or one third of its time deposits. State banks generally have had a wider latitude in the matter of farm loans and in some sections this is the principal business of these institutions, but at best the limited resources of State banks inhibit their meeting this situation in a large or adequate measure.

The Federal Farm Loan Banks as now organized can not make loans for periods less than five years and only upon first mortgage. If the farmer buys his land through the Federal Farm Loan Bank, he will give a first mortgage. But where shall he obtain credit for stocking, equipping, and improving his farm? Some arrangement must be worked out in connection with this system or otherwise to provide for second-mortgage loans. And, finally, the Federal Reserve Banks can be utilized only where agricultural paper matures within six months. The recent ruling of the Federal Reserve Board admitting growers' drafts accepted by coöperative marketing associations, where the proceeds are to be used for agricultural purposes, to eligibility for rediscount, is fresh evidence of the desire of the Federal Reserve authorities to extend the system's facilities in aid of agriculture as far as possible.

Under a plan proposed by Senator Capper the Federal Farm Loan Banks would be empowered to make loans direct to farmers or cattlemen on proper security or through associations and to rediscount farm paper for banks and cattle companies. He would amend the Farm Loan Act to make this the business of a new department in each of the twelve Farm Loan Banks. His proposed credit measure would authorize the Farm Loan Board to offer to the public notes of the

Farm Loan Banks running up to two years and secured by the notes and collateral representing the loans made out of the fund.

Mr. Sydney Anderson, chairman of the Joint Congressional Commission of Agricultural Inquiry, believes the present banking machinery can be adjusted to meet the need for agricultural credit running from six months to three years. He would permit all existing financial institutions dealing directly with the public to make loans to farmers for periods of six months to three years, and to rediscount the paper with the Federal Farm Loan Banks or to act directly as the agent of the Land Banks in making these loans. The farm paper endorsed by the bank taking it to the Federal Land Bank would be made the basis of short-time debentures which would be sold to the investment public as farm bonds now are sold. He would authorize the Federal Land Bank to rediscount any of this paper with the Federal Reserve Bank when it had reached a maturity under six months, and also to buy and sell the debentures of the Federal Land Banks.

Through some such expansion or modification of the Federal Farm Loan System, rather than by the creation of a new type of institution, the urgent needs of agriculture for intermediate credit will probably be evolved.

DISCUSSION : E. S. BAYARD, EDITOR,

THE NATIONAL STOCKMAN AND FARMER.

I regret that I can't discuss Dr. Holdsworth's paper as it should be discussed, because I have not had an opportunity to see it, which is not his fault. But I agree with about all of it, so there is little chance for any argument. I don't know, but doubt, whether to provide intermediate credits we should resort to the land banks, as I understand him to suggest.

There are a few things that we should remember in discussing this problem, and perhaps you should remember that an editor is naturally better situated to discuss credit than cash. We should all remember that action and reaction are equal, but in opposite directions. We have had our action in the form of expansion of prices and credits throughout the business fabric. We now have our reaction, contraction of prices and credits. I have never seen, nor do I expect to see, any period of reaction in which credits will be called adequate for any class of business by those who are engaged in that business or in business dependent thereon or in sympathy therewith. For the expansion of one business era is such that the contraction of the other, even if far less in volume than the expansion, is sure to be rated as

a period of inadequate credits. There is no escape from such a situation; there can be none without continuing credits on the expanded basis, a basis not justified by prices or other business conditions, therefore a financial impossibility. Such a policy, if attempted, would merely and inevitably result in greater financial calamity than results from contraction, which is the only possible corrective, though a mighty unpleasant one to take.

It is certain that, taking the country over, the present credit needs of agriculture are not being adequately met. It is also certain that there is no possible way to meet them without inviting greater trouble than we now suffer. Let us remember that we are suffering from too much credit earlier as well as from too little now.

In discussing the credit needs of agriculture we must not take as our measuring stick abnormal current conditions. Nor must we go back to the period when agriculture needed and used little bank or other credit. We must rather look to some future time when, with all permanent and no emergency credit agencies in operation, we may gauge the usual or unusual need of agricultural credit and the means of meeting that need.

In modern business credit is most needed, and the basis for it is narrowest, in regions of comparatively recent development. Usually credit is least needed, and the basis for it broadest, in older territory. This is true of agriculture in spite of all we may say about the lack of profit in that industry. For in the course of time the older civilization accumulates wealth, part of which in the form of money is available to borrowers. In these older regions also business is less speculative and more stable, a condition which always attracts money, proverbially timid. And we must say in passing that the wealth of the older civilization has not been accumulated by losses.

So we come to have, as now, two entirely different conditions as to credit. We have, in a broad expanse of territory, a demand for more credit than there is or in the nature of things can be. And we have in another region less demand for credit than could be easily satisfied. The farmer of one region wants and needs more credit than he can get. The farmer in the other region does not utilize the credit already available to him. Some of our eastern banks which are ready to help agriculture find more difficulty in getting farmers to use credit for productive purposes than they find in supplying the demand for credit. These diverse conditions make it impossible to generalize about agricultural credits.

One thing needful in all our consideration of agricultural credit is

to understand what credit is, how it may be built up, and how it may be used with profit. Many farmers do not attempt to establish their credit or to nurture it to man's size. Many do not ask it of credit institutions, but go to other lenders, and thereby fail to establish credit that will be ready when and as they need it. Many who could now get credit do not ask for it because they think it will be denied them. These characteristics are not confined to farmers, they are common to all, as we all know by experience and observation. One of the things that you gentlemen as educators should teach is the proper way to found, nurture, and maintain credit through credit institutions, for it may mean business salvation some day and should not be neglected any more than other salvation.

One extraneous point I would bring forward here for the consideration of you who are concerned in the economics of agriculture. It is that those younger business men, who have had not more than seven years of experience, have had no experience with what we are accustomed to call normal conditions, though nobody knows precisely what "normal" is. Since the middle of 1914 conditions have been abnormal, they are now so, and will be so for a long time to come. The older and younger men among you may find a better basis of understanding if this point is kept in mind.

HAVE YOU PAID YOUR DUES FOR THE YEAR 1922?

Since the dues are now payable in advance, an early remittance will assure your receiving every issue of the JOURNAL. The membership list will be published in the April issue. At the Pittsburgh meeting it was voted to receive life memberships at forty dollars (\$40). Professor T. N. Carver, of Harvard University, was the first to take out a life membership.

J. I. FALCONER.

WHO OWNS THE AGRICULTURAL LAND IN THE UNITED STATES?

GEORGE S. WEHRWEIN,

UNIVERSITY OF WISCONSIN, MADISON, WIS.

In attempting to answer the question "Who owns the agricultural land of the United States?" the census classification of owner-operated, tenant-operated, and manager-operated farms is of assistance. In the first division the ownership is in the hands of the tiller of the soil. In 1920 there were 636,508,324 acres in this class, of which 461,112,031 acres were under the control of owners operating an entire farm and 175,396,293 acres in the hands of farmers operating rented acres in addition to the land actually their property. From another standpoint, part of this area ought to be classed with the tenant-operated acreage, of which there are 265,193,415 acres. In the third class are 53,974,806 acres operated by hired managers.¹ Expressed in percentages, the land operated by both classes of owners composed 66.6 per cent of the farm land of the United States, the tenant area 27.7 per cent, and the manager-operated area 5.6 per cent.

Owner-Operated Farm Land.—Of the land operated by owners only a small fraction is the property of the colored races. Figures for the acreage owned by various classes are not yet available for 1920, but in 1910 the colored farmers owned only 3 per cent of the entire owner-operated land area of the United States and the proportion probably has not changed much since then.² The acreage owned by foreign-born white farmers is not separated from that owned by white farmers in general. However, in 1910, 81.4 per cent of the foreign-born white farmers were owners. In order to get an estimate of the acreage owned, we may disregard the differences in acreage in owner-, tenant-, and manager-controlled farms and take 80 per cent of the 111,176,522 acres operated by *all* foreign-born farmers in 1920.³ This gives us about 89,000,000 acres, or 13½ per cent, of the owner-operated area under the control of foreign-born white farmers.

¹ Census Release, Aug. 19, 1921.

² U. S. Census, 1910, Vol. V, p. 182.

³ Census Release, July 11, 1921. Foreign-born farmers operated 11.6 per cent of the total farm acreage in 1920, or about ⅛ of all the land operated by white farmers. This does not separate owner operation from the other forms of tenure, however.

Foreign-born White Farmers.—The foreign-born white farmer merits some special attention because of his capacity for becoming a home owner. Compared to the 66.3 per cent of the white farmers who owned their farms according to the census of 1910, 81.4 per cent of the foreign-born white farmers owned their farms.⁴ Calculations based on State census bulletins of 1920 show this proportion has not become less. It is about the same for the Pacific States, the Middle West, and over 88 per cent in New England, a section where the proportion of foreign-born farmers to all farmers is greater now than it was in 1910. This capacity for ownership has been explained by saying that the foreign-born farmer is an older man than the native farmer, but this is only one factor in a complete explanation. The foreigner brings with him a faculty for hard work, persistence, thrift, and endurance, which makes him a powerful competitor of the American farmer. But it is rather difficult to say just where these praiseworthy attributes leave off and a mere low standard of living begins. In closely knit foreign communities it is not only the foreign-born who have these qualities, but also their children, even to the second and third generation. In pioneer days these qualities helped to conquer the wilderness; today they make it possible for the low-standard farmer to overbid the high-standard farmer either in renting or buying land. The displacement of one foreign stock by another is not uncommon, nor the displacement of one race by another. In Southern Travis County, Texas, the white tenant was replaced by the negro tenant, who in turn gave way before the still lower-standard Mexican. This problem finds its climax in the Japanese situation on the Pacific Coast. Professor Pitkin claims that the Oriental question is not one of race prejudice, but a battle of standards of living, because in certain sections of California the Armenian is hated as much as the Japanese, even though he belongs to the white race.⁵ Pitkin claims that "if we wish to maintain or regain the American as a farmer, we must not force him to meet competition by lowering his standard of living." Those who advocate the placing of immigrants on farms, and especially on submarginal lands, have not considered the best interests of the American farmer.

This problem is intimately associated with land ownership. We need to distinguish between those races which readily assimilate American ideals and adopt our standards of living and those who do not. To the extent that a low-standard race is able to acquire a foot-

⁴ U. S. Census, 1910, Vol. V, p. 170.

⁵ Pitkin, "Must We Fight Japan?" p. 250, Chap. 26.

hold by acquiring property rights in the soil, to that extent will it control the social and political destiny of the community, and the larger the foreign community the harder will it be to break down old beliefs, customs, and standards by Americanization.

The Mexican is not much of a problem, because he does not become a landowner. Could the negro combine with his power to endure a low standard of life the passion for the soil which the Oriental has, one wonders whether he would not present another Japanese problem.

Ownership of Land Area Operated by Tenants.—In discussing the ownership of the land operated by renters the classification used so far (native-born white, foreign-born white, and colored) may be dropped. It is probably true that far less than 3 per cent of this area is owned by colored farmers, and more than $13\frac{1}{2}$ per cent is owned by foreign-born whites.

The proportion of the total farm area of the United States operated by tenants is growing steadily. It is believed by some that this means the gradual concentration of the ownership of this land into the hands of fewer and fewer individuals.⁶ The census of 1900 shows that, up to that time at least, the ownership of rented land was widely diffused. Over 80 per cent of the landlords owned only one farm each. Another 17 per cent owned more than one, but less than 5 farms, and about 3 per cent owned 5 farms or more. Most of those who owned more than two farms were proprietors of southern plantations. Evidences of concentration were so few in 1910 that it was not considered necessary to make a similar investigation at that time.⁷

The ownership of rented land would not present a problem were it not for the influence the landlord has over the farm itself, over the tenant, and over the community in which the farm is located. We have at the one extreme the landlord who looks upon his farm as a permanent investment, so conducted as to increase its productiveness as time goes on, yielding long-run profits, and who regards his tenant as a partner. On the other extreme is the "absentee landlord," whose influence is held to be next to war and pestilence in its perniciousness.⁸ Between these two extremes are hundreds of landlords of varying degrees of "absenteeism"; so naturally the landlord's attitude can not be made the basis for accurate classification. However, we may say that, in general, the greater the distance between the land-

⁶ See Report of Industrial Relations Com., Vol. IX, pp. 8951-3.

⁷ 1900 Census, Vol. V, pp. lxxxviii and lxxxix.

1910 Census, Vol. V, p. 102.

⁸ Carver, "Rural Economics," p. 377.

lord and his property, the greater will be the chances of his being a typical absentee landlord.

There are some data showing the degree of absenteeism by residence. The census of 1900 shows that 75.2 per cent of the owners of rented farms lived in the same county in which their farms were located, 15.2 per cent lived in the same State (but outside of the county), and 5.1 per cent lived out of the State, leaving 4.5 per cent of the farms with no report on the residence of the owner.⁹ The various social and economic and farm management surveys also furnish some data, although such data are not always strictly comparable. The accompanying table shows that for three scattered areas the owners of rented land living out of the county in which the farm was

Classes of Landlords as Shown by Rural Surveys.

Surveys.	Landlords Living Out of County (%).	Percent of Tenants Related to Landlords.	Percent of Landlords Farming.	Percent of Retired Farmer Landlords.	Percent of Farms Owned by Women.	Percent of Non-Farmer Landlords.
Sun Prairie, Dane Co., Wis. ¹	—	47	—	—	—	—
Orange Tw., Blackhawk Co., Iowa ²	—	50	21.8	40	—	—
Lone Tree Tw., Clay Co., Iowa ³	—	25	22.2	35.2	—	—
Three Rural Townships, Iowa ⁴	20	—	—	—	—	—
"C"	17	—	47.5	25.4	18.6	8.5
"M"	—	—	45.0	—	—	—
Rural Township, Southern Minnesota ⁵	—	13	18.0	—	—	25.0
Tompkins Co., New York ⁶	—	—	23.0	20.0	20.0	37.0
Southern Travis Co., Texas ⁷	9	14	66.0	12.0	—	23.0

¹ "Farm Tenancy," C. J. Galpin and Emily F. Hoag, Wis. Research, No. 44 (1919).

² "A Rural Social Survey of Orange Township, Blackhawk Co., Iowa," G. H. Von Tungeln, Iowa, No. 184 (1918).

³ "A Rural Social Survey of Lone Tree Township, Clay Co., Iowa," G. H. Von Tungeln, Iowa, No. 193 (1920).

⁴ "Social Surveys of Three Rural Townships of Iowa," Paul S. Pierce, Univ. of Iowa, 1st Series, No. 12 (1917).

⁵ "Social and Economic Survey of a Rural Township in Southern Minnesota," Thompson and Warber, U. of Minn., Studies in Economics No. 1 (1913).

⁶ "An Agricultural Survey, Townships of Ithaca, Dryden, Danby and Lansing, Tompkins Co., New York," Warren and Livermore, Cornell, No. 295 (1911).

⁷ "A Social and Economic Survey of Southern Travis Co., Texas," Haney and Wehrwein, U. of Texas, 1916, No. 65 (1916).

⁹ U. S. Census, 1900, Vol. V, p. lxxxvii.

located did not exceed 20 per cent. In the Sun Prairie Community, Dane County, Wisconsin, out of the 78 retired farmers still owning farms only one lived outside of the county and only 16 had moved to town. Under the plantation system of the South, where a plantation is a group of rented farms grouped around a resident owner or manager, it was found that in 325 counties only 48 per cent of the tenants lived on farms not under the plantation system, operating only 24 per cent of the farm area of these counties. Certainly many of these farms belong to landlords living nearby or at least in the country. The amount of absenteeism here is small.

While these data are meager, they indicate that, as a rule, the residence of landlords is near enough to the farms to allow ample supervision or at least the proper interest in the farm and the community.

Closely connected with absentee ownership is alien ownership, featured every now and then by popular magazine writers. One such writer states that about the year 1899, forty-six foreign individuals and corporations owned land in the United States aggregating twenty-six million acres, equal in area to the State of Indiana, a large part of this belonging to the nobility of Great Britain.¹⁰

As far as agricultural land is concerned, there is little evidence of such foreign ownership. The census of 1900 revealed only 244,505 acres of rented land held by a total of 789 alien owners. Of these 324 lived in Canada and 55 in Mexico. Neither was the ownership concentrated; 699 out of the 789 owned only one farm each. However, some alien owners were not enumerated, because, like the Scullys, they had taken up a legal residence in the United States; and others operated their farms through managers and were not enumerated here.¹¹

An important factor that modifies "absenteeism" is the personal relation of the landlord to his tenant. The data from the surveys show that in many cases landlords are related to their tenants by blood or marriage. The son or son-in-law obtains the farm on easy terms, gradually acquiring full possession as the owner "retreats" to retirement. The table shows that percentage of tenants so related varies from 13 to 50 per cent, while in Rock and Green Counties, Wisconsin, it is 40 per cent, and in Woodford County, Illinois, it is 50 per cent.¹²

There are four types of owners of the rented land area, classified

¹⁰ *Technical World Magazine*, Jan., 1909, p. 438.

¹¹ U. S. Census, 1900, Vol. V, p. lxxxviii and lxxxix.

¹² Hibbard in Report of Illinois Farm Commission; (1920) p. 11; *Prairie Farmer*, Feb. 25, 1920, also April 10, 1920 (Land Commission Hearings).

in part by occupations: (1) farmers actively engaged in agriculture; (2) retired farmers; (3) business men and speculators; (4) companies or corporations. It is impossible to estimate the number of farmers who, besides working their own farms, own a second or third farm which they lease. The entire plantation system of the South consists of farms partly owned and the rest leased to tenants. However, the various surveys show that farmer landlords are not uncommon in the North. It will be noted that in three areas about 22 per cent of the landlords were active farmers and in two Iowa townships almost 48 per cent. Sometimes the process is reversed and the renter is the one who buys land, not for the purpose of working it himself, but to lease it. Some of the Black Land tenants of Texas own farms in east Texas. In southern Travis County six tenants were reported who owned farms ranging in size from 55 to 440 acres.

Perhaps the largest part of the rented farm area of the North is owned by retired farmers. In Travis County 12 per cent of the tenants had retired farmers as landlords, while in the North the proportion ranges from 20 to 40 per cent. As noted before, a great many of these farmers are related to their tenants, but this is not always the case. Few landlords own more than one farm, as the census of 1900 revealed. It is evident that most retired farmers have an income from but one farm and therefore are not in a position to be as liberal with their tenants as the business men and the large companies can be in times of financial distress. Governor Ferguson, testifying before the Industrial Relations Commission in Dallas, Texas, 1915, traced the growth of the "bonus system" of a cash rent in addition to the customary share rent to the retired farmer landlord. The retired farmer can not keep pace with the people he associates with in town and "pretty soon that 350 acres of land won't support him," said the governor, "and consequently—he goes back and raises the rent on the poor fellow in the country."¹³ It is impossible to say what proportion of the retired farmers are so situated, but it is certain that they must be classed with "absentee" landlords in certain cases.¹⁴

It has also been noted in Texas, Iowa, and Illinois that the aim of many a tenant is to accumulate money as fast as possible in order to purchase a farm, not to operate, but to lease to another tenant and then live off the rent; and the better farmer he is, the sooner he is able to retire. There can be no quarrel about the right of any man to retire from active life if he so chooses, but such a process elimi-

¹³ Report, Vol. IX, p. 8958.

¹⁴ *Prairie Farmer*, Feb. 25, 1920 (El Paso Hearing of Illinois Land Com.).

nates the most productive farmers, paves the way for a permanent tenant system, and produces a group of small income "feltboot avenue" farmers in the near-by towns.¹⁵

The third group of landlords are the bankers, business men, and others, "who," said Prof. Hibbard in 1912, "have bought farms in the vicinity of every hamlet in Iowa for the past ten years."¹⁶ During the "boom" thirty-one per cent of the buyers of Iowa land were real estate men, bankers, merchants, and others not engaged in agriculture. Most of these buyers are speculators interested in the increment that constantly rising values bring and may therefore encourage their renters to exploit the land as fast as possible.¹⁷ The table shows that the percentage of non-agricultural landlords may vary from 8½ to 42 per cent. Two surveys also list the rented farms owned by women. In both cases nearly one fifth of the farms were so owned.

The last type of owner of rented land is the large land holder or the corporation. The Scully estates and the Wadsworth estate of New York are typical examples. Just what part of the area of agricultural land is under the control of landlords of this type it is impossible to say. These large holdings have been criticized, and it is not at all clear whether their methods are detrimental or otherwise.¹⁸

This leads us to the subject of large land holdings in general. California is the classic example. The study of the large land holdings of the eight southern counties of California made in 1919 shows that outside of railroad and public land one half of the land area was owned by 250 individuals and corporations, but this statement loses its significance when one notes that in some counties the percentage tillable is only 12 per cent and generally it does not rise above 40 per cent. The results obtained by a seminar working a whole year on the subject of large land holdings at the University of Wisconsin showed that outside of the West and Southwest the large land holdings are practically a negligible factor.

Ownership of Manager-Operated Farms.—Large land holdings are usually operated by managers. California has the largest number of this class of farms, with New England second, followed by Pennsylvania, New York, and Illinois. They tend to cluster around the big cities where they are the "play farms" of wealthy business

¹⁵ Iowa, No. 193, p. 228.

¹⁶ Am. Stat. Ass., Vol. 12, pp. 469-471.

¹⁷ "Survey of Red River Community," U. of Minn., No. 4, p. 14; U. S. D. A. Bulletin 874.

¹⁸ *Prairie Farmer*, Mar. 6, 1920.

men. As such they are usually a disturbing element in the rural life where they are located. However, there are many others that are paying concerns and are capable of great usefulness, especially in the pure-bred stock business. The application of large capital and managerial ability to agriculture is not to be discouraged.

Conclusion.—In trying to answer the question stated in its ambitious title, this paper has done little more than to point out the problems that have developed in the United States in connection with the ownership of agricultural land. The dearth of statistical data and accurate information suggests the need for extended research in this field. It is quite apparent, however, that the problems of concentration of ownership, absentee and alien ownership, the ownership of land by low-standard nationalities, and tenancy are highly local in character and take on different aspects as types of agriculture and races vary. Solutions must therefore be sought in State and community action rather than in national legislation.

DISCUSSION BY DR. C. L. STEWART,

OFFICE OF FARM MANAGEMENT AND FARM ECONOMICS, U. S. DEPARTMENT
OF AGRICULTURE.

This paper opens up a most fruitful line of topics in a most effective way. It should mark the beginning of a more thorough understanding of our land tenure system.

The amount of agricultural land owned by those operating it is shown for both full owners and part owners. Researches by the Division of Land Economics, Office of Farm Management and Farm Economics, indicate that in 1910 46.0 per cent of the improved land in part-owner farms and 52.6 per cent of the unimproved land in these farms were hired from other owners. That is to say, lessees operate not only 265 millions of "full" tenant land, but 89 millions of part-owner tenant land, a total of 354 millions. Since managers operated 54 millions of the 956 million acres of land in all farms, the acreage of directly operated land was 902 millions. Of the directly operated land as measured by acreage, lessees operated 39.2 per cent, leaving but 60.8 per cent in the hands of operating owners. Of the non-manager or directly operated land as measured by valuation, the owners were operating only 54.2 per cent.

The census has never analyzed for us the ownership of the manager land. If all managers were hired representatives of the owners in the operation of their land, the tenure of manager land would be

simpler. Managers, however, are often engaged by tenants or part owners in whose stead they serve as representatives. In the range country, particularly, employers of managers often have only a leasehold on a part or all of the land in question. If the census were to undertake an analysis of our land from the standpoint of tenure, it is fair to expect a separation between the owned and leased acreage, not only for part-owner land, but also for manager land.

Mr. Wehrwein points to the results of the census of 1900 bearing on the concentration of ownership of rented farms and on the proximity of residence of the owners. The Division of Land Economics is engaged in a follow-up study of this subject based on the census of 1920. It is of vital importance to the country to know whether the increase of tenancy, that has marked the first two decades of the twentieth century, has a counterpart in a growing concentration of ownership and a growing trend toward non-residence of landlords.

NEED FOR FUNCTIONAL STUDY OF LANDLORDSHIP AND TENANCY.

Mr. Wehrwein makes it clear that it is impossible to define "absenteeism" in terms of miles so far as applying in any significant sense to landlords. Often landlords, whose mileage distance from their land is large, are in spirit anything but absentees, while many landlords, residing on or near their farms, are in spirit divorcees grasping for alimony. Physical absenteeism is often desirable, but absenteeism of responsible attitude is a public menace.

In general the public needs to polarize its thought on the problems of landlordship and tenancy in more fundamental terms. Rather than placing stake so exclusively on subordinate considerations such as localism of residence, naturalism of legal personality, nativism of race, and normality of economic habits, the public should polarize its thinking around the functions which landlords and tenants may properly be expected to subserve in our modern economic organization. For instance, without going into an extended list of derived and contingent functions of landownership, we may hold the following to be the most essential functions:

1. Provide and risk long- and middle-term capital and credit;
2. Select property, personnel, and programs;
3. Carry public charges on land.

As the functions of landownership are contrasted with those of farm operation, we may not doubt that they differ as widely as the functions of farm operation differ from those of farm labor. The

three are like the three rings of a circus, with something of the entrepreneurial element present in all three, but in each case adjusted to fit the peculiar requirements of the three classes of people occupying them. Laborers must claim their rewards in consumable goods daily, weekly, or monthly. Farm operators, except for the farm-produced items of living which relieve the severity of the laborer's climb to operating entrepreneurship, claim their rewards over a cycle of production, usually a single biological cycle in crop or animal production, but often over two or more biological cycles if needed to complete a weather or yield cycle. Where there is a two-year periodicity in farm operations, for instance, the tenant organizes his enterprises on a biennial basis. Landowners, however, except where an unusual turnover in properties holds temporary sway, must gauge their entrepreneurial activities by decennial or generational considerations.

As between landlords and those tenants who must be furnished week by week with means of subsistence, there is no mistaking the wide contrast of functions. Such tenants are practically laborers making little more than the laborer's venture. In fact, we have as tenants people who range from an almost purely laboristic position to some who occupy a semi-capitalistic position. As owners we have some who may survive for a while under overwhelming obligations and others whose economic position is proof against whatever winds that blow.

If the fundamental facts as to the function of landownership, farm operation, and of farm labor are made the background of public consideration, and if the measuring rods of individual economic power, namely, power to produce and power to save, are used in assessing the functional value of individuals and classes, we can hope to avoid hurtful policies based on a superficial externalism.

RIISING LAND VALUES AND THE FUTURE POSITION OF OUR TENURE CLASSES.

Land values as contrasted with land prices means the commodity purchasing power of a real estate unit. If land prices moved in direct and complete correlation with the average price of commodities, there might be little or no change in the power of an acre or quarter section to buy a quantity of commodities such as might be needed to maintain a family at a given standard of consumption for all or a fixed part of a year. Changes in the purchasing power of the dollar as applied in commodity purchase, however, are not in direct and complete correlation with changes in the purchasing power of the

dollar as applied in the purchase of farm real estate. In other words, the commodity dollar is a different thing, historically considered, from the real estate dollar. Thereby hangs a most significant possibility in the future of American land tenure.

The price of the average acre of our farm land in the past 70 years has advanced in only casual relationship with commodity prices and in dominant relationship with population. When commodity prices were advancing by leaps and bounds, land prices were generally pursuing the even tenor of their way upward at an annual compounding rate of slightly more than $2\frac{1}{2}$ per cent. Temporary reactions in land prices have resulted in both directions in response to marked changes in the prices of farm products and other commodities. These, however, have ordinarily spent themselves in a few months or a short term of years. A prolonged downward pressure of commodity prices, such as characterized the period 1865 to 1896, sufficed merely to retard the upward movement of land prices which reasserted itself vigorously from 1896 to the outbreak of the World War. Since 1914 the price of land has not kept pace with the commodity price movement either in the upward or downward phases.

If land prices tend to fall less markedly than commodity prices during the secular movement which may slope downward from 1920 for two or more decades, or if land prices, recovering from the panic slump in which the present months find them, become more or less stabilized at a price level for the country as a whole somewhat above that prevailing in 1914, we may find ourselves facing conditions similar in some respects to those which beset English agriculture during the downward secular trend of commodity prices that followed the Napoleonic wars. In that case, as I infer from a study made by Dr. O. C. Stine of our office, the tenure of English lands passed in a considerable measure to owners who were not entirely dependent on farm operations as their source of money income. Shipowners, manufacturers, professional people, and others who saw in farm lands an attractive prospect of persisting property prices took a larger relative place on the buyer's side of the farm real estate market. While we now have bonds, life insurance, public utility stocks, and other investments which, from the standpoint of price, are practically unshrinkable assets, there is no reason for assuming that farm real estate during the next few decades may not occupy its traditional rôle as an investment free from serious liability to shrinkage in price, except for the brief periods in which "weak hands," who bought shoestring equities in a period of inflated commodity prices, are forced to give place to "stronger hands."

If such a displacement takes place in our land tenure in the next few decades as occurred in England after the Napoleonic wars, the agitation against landlordism, which filled our press during the downward secular movement of commodity prices between 1865 and 1896, may again assert itself under somewhat similar conditions of low prices for farm products, and less depressed if not fully maintained prices of farm real estate. If, under such circumstances, landlords press for rental income in harmony with prices of land more than with prices of farm products, and if tenants press for the reverse, a gulf may widen between them.

In the light of these possibilities, I would point particularly to the county conferences of landlords and tenants which have been conducted in Illinois and Iowa this year. These conferences, while proof against a blind assumption of complete harmony of interest between landlords and tenants, have shown marked usefulness in exploring the common ground in their relations and promoting measures beneficial to both. Such conferences seem to be laying the groundwork for genuine economic statesmanship in the field of land tenure.

TWELFTH ANNUAL MEETING, AMERICAN FARM ECONOMIC ASSOCIATION.

The meetings of the Association were held at the William Penn Hotel, Pittsburgh, Pennsylvania, December 29, 30, 31, 1921. The Secretary reports attendance as follows:

Thursday—P.M. 70.

Friday—A.M. 80, P.M. 70, evening 60.

Saturday—A.M. 65.

The business meeting was held December 31. The meeting was called to order by President W. F. Handschin. The President called for the report of the Committee on Experiment Station Funds and Work; no report was submitted. In the absence of Chairman Cooper, President Handschin summarized the work of the committee. The reports of the committees on terminology, on extension, on teaching, and on resolutions were read and approved.¹

The Committee on Life Membership, Dr. C. L. Stewart, Chairman, recommended that the Association offer life membership at \$40. The report was adopted and the Secretary submitted an amendment to the constitution providing for such memberships. The proposed amendment was adopted. (See inside back cover.)

The report of the Secretary-Treasurer was read and adopted. The Auditing Committee, W. I. Myers, Chairman, reported that they had audited the books of the Secretary-Treasurer and found the same to be correct.

The Secretary reported that invitations had been received from Buffalo, Cincinnati, and Chicago for the next annual meeting of the Association. President Handschin extended an invitation from the University of Illinois to hold the next annual meeting at Urbana, Illinois.

Officers for the ensuing year were nominated by a committee of which Andrew Boss was chairman. The Chairman of the Nominating Committee was directed to cast the vote of the Association for the officers nominated and they were declared elected.

¹ The reports of these committees, excepting that of the teaching committee, are given below. The chairman of the committee on teaching asks for time to complete the report which will be published later.

REPORT OF THE SECRETARY-TREASURER.

FINANCIAL STATEMENT, AMERICAN FARM ECONOMIC ASSOCIATION, FOR THE YEAR ENDING DECEMBER 24, 1921.

Balance on hand Jan. 1, 1921	\$ 125.23
Receipts deposited for the year	1,077.19
Receipts undeposited	4.00
Total to be accounted for	<u>\$1,206.42</u>

EXPENSES.

Printing JOURNAL, New Era Printing Co.	
1 issue 1920	197.07
3 issues 1921	707.55
Stamps	46.30
Stationery, Programs and Printing	67.83
Rent of room for 1920 meeting	13.50
Express	6.36
	<u>\$1,038.61</u>
Balance in Bank	167.81
	<u>\$1,206.42</u>

ASSETS.

Cash on hand	\$167.81
Liabilities. Owing to New Era Co., October issue (Estimated)	165.00
Net Assets	<u>\$2.81</u>
Deficit end of 1920	\$80.59
Balance on hand, December 24, 1921	2.81
Net Gain	<u>\$83.40</u>

MEMBERSHIP.

On December 24, 1921, there were 569 paid-up members on the books of the Association. During the year 142 members were dropped for the non-payment of dues, while 172 new members were added, making a net gain of 30 members for the year. Illinois with 108 members now leads the States in the membership list, having nearly one fifth of the total. The District of Columbia has 64 members, while Iowa has 42.

THE JOURNAL.

Four numbers of the JOURNAL were published in 1921, having a total of 200 pages.

CHANGE IN POLICY.

The only change in policy has been the putting of the membership on a "paid-in-advance basis," in accordance with the action taken at the last annual meeting.

REPORT OF THE COMMITTEE ON RESOLUTIONS.

C. E. LADD, *Chairman.*

1. WHEREAS the American Farm Economic Association notes with approval that the U. S. Department of Agriculture is giving more attention to farm management, marketing, crop reporting, and other phases of agricultural economics, *be it resolved:*

1st. That this Association recommends that the work of the International Institute of Agriculture be better supported by the Federal Government, and

2d. That the Department of Agriculture should maintain agricultural attachés in the more important competing and consuming countries, and

3d. That the Secretary of this Association shall send a copy of this resolution to the Secretary of Agriculture, to the Chairman of the Committee on Agriculture in the House of Representatives, and to the Chairman of the Committee on Agriculture and Forestry in the U. S. Senate.

2. *Resolved* that the American Farm Economic Association extend to Mr. E. S. Bayard and his associates, Mr. M. C. Gilpin and Mr. Dudley Alleman, sincere thanks and appreciation for their assistance in making suitable arrangements and making possible the success that has attended the present meeting of the Association.

3. *Resolved* that the American Farm Economic Association extend to Professor Francis Tyson, of the University of Pittsburgh, a hearty vote of thanks for his courtesy and efforts in making arrangements for the Twelfth Annual Meeting of this Association.

4. WHEREAS we understand that the publications of the Department of Agriculture known as the *Crop Reporter*, the *Market Reporter*, and the *Experiment Station Record* have been discontinued to the detriment of the farmer, the merchant, the manufacturer, and the public generally, the American Farm Economic Association urgently requests that immediate steps be taken by the proper government authorities toward the continuance of these publications.

In the furtherance of this request, *be it resolved* that the Secretary of this Association be instructed to send a copy of this resolution to the Chairman of the Joint Committee on Printing, Washington, D. C., and to the Secretary of Agriculture.

5. WHEREAS it has been proposed that the marketing activities of the United States Department of Agriculture be transferred to the

Department of Commerce, and whereas the Department of Agriculture has developed harmonious and widespread relationships in the promotion of these activities with the agricultural colleges, experiment stations, State departments of agriculture, and State departments of markets, and since this relationship has been furthered and developed through years of joint State and Federal activities between the U. S. Department of Agriculture and the above State institutions, it is the belief of the members of the American Farm Economic Association that the proposed change would destroy this relationship and occasion large expenditures on the part of the Department of Commerce to re-establish them. It is seriously doubted if such relationships could be successfully reestablished with these State agencies, and whereas such a great portion of the marketing activities of the Department of Agriculture are so closely allied to agriculture and agricultural promotion agencies, therefore, *be it resolved* that the American Farm Economic Association go on record as opposing the transfer of the marketing activities of the Department of Agriculture to another department of the government.

Be it further resolved that the Secretary of this Association be instructed to forward a copy of these resolutions to the President of the United States, to the Chairman of the Committee on Agriculture in the House of Representatives, to the Chairman of the Committee on Agriculture and Forestry in the U. S. Senate, to the Secretary of the Department of Commerce, and to the Secretary of the Department of Agriculture.

REPORT OF THE COMMITTEE ON TERMINOLOGY.

A. J. DADISMAN, *Chairman.*

These terms are defined according to their general use in farm economic literature.

1. "*Farm economics* deals with the principles which underlie the farmer's problem of what to produce and how to produce it, what to sell and how to sell it in order to secure the largest net profit for himself consistent with the best interests of society as a whole."

2. *Farm earnings* include both farm income and that part of the family living furnished by the farm.

3. *Data* is plural in form and should be used in the plural only; *datum* is the singular form. These *data*, never this *data*.

4. *Tenantry* means tenants collectively; *tenancy* means a form of land tenure. The system of tenancy in Russia is bad and the result is an impoverished tenantry.

REPORT OF COMMITTEE ON EXTENSION.

R. F. TABER, *Chairman.*

NEW LINES OF WORK IN FARM MANAGEMENT EXTENSION.

The changing economic conditions during the past two years have had a serious effect upon the American farmer and his profits. In view of this fact, it was felt that the thing that would be most interesting to the Association at this time would be a survey of the means that the various extension specialists in farm management and rural economics are using and planning to use to make themselves of the greatest possible service to their farmers under these changing conditions. While in a few States the farm management specialist also does marketing work, it was not thought best to include anything but purely farm management work in this report.

In order to secure the information desired, a letter was sent to all extension men, asking the following questions:

1. What new lines of work are you developing?
2. What new lines of work do you plan to develop?
3. What lines of work would you like to develop, but as yet are unable to because of lack of material or the proper method of putting it across?

Replies were received from twenty States. The answers received have been compiled and are attached to this report.

While there is an apparent great diversity in the methods used and the plans being made among the different States, there still is quite a uniformity in the different principal areas of the country. In the far West and in New England, because, no doubt, of the extreme specialization of their farming business, more attention is being paid to cost work on particular crops and kinds of live stock than in the past. All the specialists in these areas show great interest in labor hours and costs and in methods of increasing efficiency in individual enterprises. The States in the far West and in New England, even to a greater degree than in the Central States, seem to feel their lack of a suitable background of investigational material. The Central States seem to be placing continued emphasis on general farm accounts and are using the farm accounting and management school apparently to a greater extent than in the other areas. There seems to be a growing view that more work must be done with the younger generation, either through the schools or through club work. This interest is no doubt due, as Mr. Robertson, of Indiana, says, to the fact that farm management changes are much more difficult to make

than farm practice changes, and for this reason the teaching of farm management principles is very important before the future farmer becomes established on any farm. Other lines of work that seem to be commanding increasing interest are the tenancy problem and methods of spreading information and teaching methods of interpretation of agricultural statistics.

A careful study of the replies to the questionnaire, coupled with a survey of the lines of work now being pushed hardest in the several States, convinces the writer that practically all specialists feel that the time is now here when every State must settle down to the development of a long-term concerted program which the demonstrator can go on and develop in a logical manner. It seems to be the sentiment that such a program must include, first of all, sufficient long-time or permanent record work on representative farms and in representative areas to provide demonstrational material that can be used in a more widespread way in the county and State. Also there seems to be a general feeling in many States that there must be developed more complete investigational material with which to attack the problems in a more fundamental way than has as yet been done. In many States where very little investigational work has been done, and where funds are not available for such work, there is a great opportunity for co-operative endeavor between the investigational staff and the extension specialist for mutual benefit. If the long-time demonstrational work is properly located in the State and carefully planned, slight additional work on the part of the specialist will each year furnish material which, if properly worked up by the investigational staff, will be of great value to all parties concerned.

The farm accounting and management schools, which have so generally been used as a means of teaching methods of farm accounting and the general principles of farm management, have now developed many men in practically all the States who are bringing forward problems for solution that have as yet been untouched in an extension way. The whole problem of farm organization, with its thousand and one ramifications into the realm of selection of enterprises, crop rotation, labor distribution, the farm power problem, etc., is a thing for the intelligent study of which we have created a demand among the leaders in all our counties. If this demand is to be met, we will have to put more careful thought into the matter than has yet been required. It means, first of all, the more thorough development of our investigational work or better coördination between the demonstrational and investigational departments, in order that we may at all times keep ahead of our problem, and then along with this must

go the most careful thought and study as to methods of presentation in an extension way.

Summary of Replies to Questionnaire.

(Some of these lines are already well under way in some or all States.)

NEW LINES OF WORK NOW BEING DEVELOPED.

1. Junior work either through clubs or schools.
2. Enterprise cost work on crops and live stock, feed records with live stock, and labor records with crops being accented.
3. Permanent farm management work following accounting and management schools.
4. Farm management service to special farms.
5. Farm lay-out work.
6. Publicity as to value of crop reporting service.
7. Publicity as to price movements.

NEW LINES OF WORK PLANNED FOR THE FUTURE.

1. Farm tenancy work.
2. Farm management surveys in typical areas and counties.
3. Demonstrations of efficiency of various labor methods through cost records.
4. Complete cost work on limited number of farms.
5. Development of demonstration farms.
6. Surveys as to labor costs of principal crops.
7. Cost work on orchard development and maintenance.

NEW LINES OF WORK FOR WHICH MATERIAL IS NOT AVAILABLE OR METHOD OF ATTACK NOT YET PERFECTED.

1. Teaching along various lines of farm organization.
2. Demonstrations as to methods of reduction of labor costs.
3. Farm management movies.

STATE PROGRAMS OF WORK IN FARM MANAGEMENT AND FARM ECONOMICS.

CALIFORNIA.

Costs of Producing Crops and Live Stock.—The division has completed the study of 40 field, fruit and truck crops and the handling of beef, hogs, sheep, dairy and poultry with a view to showing the capital requirements, amount of production and incomes derived from these various businesses under California conditions. The results are now available in printed form, the Associated Students' Store having undertaken to bear the cost and responsibility of distributing this work—a seventh edition entitled "Farm Management Notes" by R. L. Adams.

Leasing of California Farm Lands.—Initiated January 23, 1920. The Division of Farm Management began investigations of methods of leasing California farm lands by conducting studies in various farming sections of the State. The investigation is designed to provide a body of data showing the status of leasing, its possibilities for gaining a start in farming, its limitations, its possible abuse, any corrective needs, as an aid to constructive measures for placing California agriculture on a basis as nearly sound and permanent as possible. The points being specifically investigated are:

- (a) Extent of leasing in selected areas to include as much as possible of the agricultural sections of the State.
- (b) Methods used in leasing California farms and farm lands.
- (c) Social aspects of leasing.
- (d) Leasing as a stepping stone to ownership.
- (e) Acreages, incomes and investments of tenants and landlords, and of operating owners.
- (f) Legal aspects of leasing.
- (g) Determination of what constitutes a fair basis for dividing incomes accruing under leasing methods of farming.
- (h) Good and bad features of leasing.

Studies have thus far been conducted into leasing methods as shown by lease contracts collected from firms and farmers and copied from county records on file in recorders' offices. Deductions have not as yet been attempted, other than for pressing needs. A summary of accumulations to date is as follows:

- 79 complete leases in actual use.
- 167 briefs of provisions contained in leases actually in use.
- 9 corporation standard lease forms.
- 17 commercial standard lease forms.
- Numerous accounts of leasing methods.
- Studies of county records.
- Collection of opinions.
- Collection of literature.

Costs of Local Production.—As a result of farmers' activities, an appropriation was made by the last legislature to cover an investigation into the cost of producing locally. The Division of Farm Management will be concerned in this work and preliminary plans are now under way to formulate the basis of operations and to define the scope of the inquiry.

R. L. ADAMS.

UNIVERSITY OF CALIFORNIA,
BERKELEY.

IOWA.

A State-wide survey of live-stock shipping associations was completed last spring, and an Experiment Station bulletin embodying the results of the study is now in press and will be issued during the current month. In May we undertook, in coöperation with the Land Economics Section of the Office of Farm Management, to make a re-survey of land values in nineteen counties of the State, which were covered by the previous land-value survey of 1919. This work will be completed during the present month and is yielding some extremely interesting data. In June, 1921, we began a State-wide survey of farmers' elevators, some 650 in number, which will be continued until about the close of this year.

We are continuing a coöperative project with the Office of Farm Management on the cost of beef production in Pottawattamie County and will probably enter a coöperative relationship for the study of hog production costs. Likewise, in coöperation with the State Farm Bureau Federation, we are carrying on two detailed cost routes, one in Marshall County and one in Shelby.

E. G. NOURSE.

IOWA STATE COLLEGE,
AMES.

INDIANA.

The department of farm management and rural economics was established at Purdue University July 1, 1920. For nearly six years before

this time farm management extension work had been done in the State. Investigational data were not available except for limited studies made by the Federal Office of Farm Management, therefore the first extension work was necessarily semi-investigational in character.

During the first three years the work consisted largely of securing farm survey records. The succeeding two years similar work was carried on by means of records secured in farm account books. From this extension work there are available over 3,100 labor income records of farms from nearly all sections of the State covering the years 1913 to 1920.

In addition to the work done by the extension department outlined above, two farm management surveys had been made in the State by the Office of Farm Management. In 1910, 1913 and each year thereafter until 1919 labor income records were secured from at least 100 farms in Forest and Johnson townships in Clinton County. A part of this material has been published in the U. S. D. A. Bulletin No. 41, "A Farm Management Survey of Three Representative Areas in Indiana, Illinois and Iowa," and U. S. D. A. Bulletin No. 920, "Farm Profits."

In 1918 and 1919 small farms near Indianapolis were studied by the Washington office through survey records of forty small truck farms. At the time the department of farm management and rural economics was established at Purdue University a study of beef cost of production was being carried on by the Washington office in coöperation with Purdue University. The first year, 1919, 49 labor income and beef cost of production records were taken. The following winter detailed cost information was obtained by the monthly visits of a representative of Purdue University, who took weights on feed, time required for feeding, weights of cattle and other cost information. The labor income and cost studies were made in 1920 and are to be continued for at least a five-year period.

After the department of farm management and rural economics was organized a farm power study was made covering 74 farms. Labor income and power costs were obtained on about the same number of farms this year, and this study will be continued for at least a five-year period in the same county.

The method used in determining the economic status of the tractor is to compare the results obtained on tractor farms with the results obtained on similar farms without tractors. Labor income and farm power costs are obtained. Economical farm power is reflected in labor income. A comparison of farm power costs indicate the cheaper

power for a given amount of work done, while a farm organization and labor income study shows the effect of the tractor regardless of cost per unit of work done.

Plans are under way to start a hog study on the cost of producing pork. It is proposed to carry on this work in the way the beef cost work is being done. This summer cost data were collected on wheat and oats in two representative areas. In the near future other crops will be included in these cost studies if funds permit.

Within the past year this department has assumed the management of a rundown farm in southern Indiana. A new set of improvements are being erected for dairy and poultry farming. Detailed records are kept of all improvement and operating expenses. The aim is to make a good home and at least a fair income.

As the department becomes better organized the scope of its work will be enlarged to cover more of the important economic problems of the State.

O. G. LLOYD.

COLLEGE OF AGRICULTURE,
LAFAYETTE, INDIANA.

IDAHO.

During the spring of 1919 the University of Idaho and the Federal Office of Farm Management and Farm Economics entered into co-operative relations for the purpose of conducting farm management and farm economic investigations within the State of Idaho. So far two projects, each dealing with farm management and cost of production, have been undertaken. One of these projects is a study of irrigated farming in a typical district of southern Idaho, while the other project deals with the non-irrigated, grain-growing agriculture of the north portion of the State.

Owing to the limited funds available, these problems were attacked by the survey method, the farm business analysis survey being made the basis of the investigation. In connection with the farm survey record, cost data are obtained on all crops. These surveys are to be extended over a period of years in order to yield reliable results.

The data obtained from a study of irrigated farming, it is believed, will be of inestimable value in serving as a guide in the development of several millions of acres of arid land in southern Idaho that will doubtless be brought under irrigation in the near future. The Office of Sugar Plant Investigation, United States Department of Agriculture, is also coöperating with this project.

The non-irrigated, grain-growing area that is being studied embraces not only a portion of Latah County, Idaho, but also a portion of Whitman County, Washington, and the Department of Farm Management of the State College of Washington is coöperating in the investigation. It is also believed that this study will yield information that will be very helpful in placing the agriculture of northern Idaho and eastern Washington on a more permanent basis.

BYRON HUNTER.

COLLEGE OF AGRICULTURE,
MOSCOW, IDAHO.

SOUTH CAROLINA.

What Has Been Done.—Investigational work in this State up to the present time has been neither abundantly nor extensively carried on. Some investigations have been conducted by the Office of Farm Management and Farm Economics of the U. S. Dept. of Agriculture and are published under the titles, "A Farm Management Study in Anderson County, South Carolina" (U. S. D. A. Bul. 651, published 1918), and "The Cost of Producing Cotton" (U. S. D. A. Bul. 896, published 1920).

The Clemson Agricultural College began some studies in the summer of 1920 when about a dozen farms were surveyed for labor income. It was noted that some farms made very small labor incomes and a few made minus incomes even with prices of cotton and corn as high as they were at that time. A special study of labor distribution and hours was made on some of these farms especially for the cotton and corn crops. In some cases only fifty percent of the total available time was used in productive work. In addition to this, no field work has been done, but important changes have developed as regards the teaching work in farm economics. An advanced course in farm management, actually dealing with farm organization problems and cost of production studies, is being offered to seniors, the laboratory work being nearly entirely devoted to study on actual farms selected as suited to the purpose. The general course in farm management has been changed from the senior to the junior year and is taken by all students in agriculture. It is probable that we shall open a course in cost accounting during this school year. Another new course is farm management and farm bookkeeping, given to the one-year agricultural class.

What is Planned for the Future.—In South Carolina we are just at the turning point as regards farm economics work. Investigations

will be started at once in this State in the several fields of farm economics. The writer intends to devote a considerable portion of each year to such work in addition to duties in teaching. The lines of investigation will be as follows:

1. Cost of production and labor studies. The labor income blank prepared by the Office of Farm Management and Farm Economics of the U. S. Dept. of Agriculture will be employed for determining the income of a farm as a whole, and it is planned to secure several hundred records in typical counties before next summer. We also plan to select about thirty farmers this fall who are able and willing to begin and carry through a complete set of cost accounts. Books will be furnished to these farmers and instructions given as to how to keep the accounts, and at the end of the year the college will, as its share of the contract, check over these books and recommend any desirable changes in the business. In addition to this, it is planned to have about a hundred farmers use the check-book method of farm cost accounting, books being furnished the farmers for this purpose. It is thought that this method will be suited to a certain class of farmers who carry transactions through a bank and who have not the time to devote to the making of a complete set of cost accounts. Special studies of labor distribution and efficiency will be begun, especially as regards cotton and corn, the leading crops. Outlines including all the usual operations on these and other crops will be employed, and from them the distribution of labor, the amount of labor, and the labor efficiency may be readily determined.

2. Farm organization studies, including layout, cropping systems and general efficiency of the farm, will be made, mainly through students in the advanced course.

3. Farm life studies. It is planned to survey a hundred or more farms using a special questionnaire in which detailed information may be obtained regarding rural social life, rural home life, racial relations and rural institutions.

While it is impossible at present to conduct investigations in the other branches of farm economics, it is hoped at some future period to carry on studies in farm finance, land economics, marketing and agricultural geography.

W. C. JENSEN.

CLEMSON COLLEGE,
SOUTH CAROLINA.

TENNESSEE.

1. In coöperation with the Office of Farm Management and Farm Economics, an economic and social survey was planned of land ownership and tenancy in a typical county of the Central Basin. Williamson County was chosen, a very complete schedule was used and the field work completed early last fall. The data are now being tabulated.

2. A study similar to the one made in Williamson County was planned for a typical county in West Tennessee. Madison County was chosen and the field work has been completed. This study was also made in coöperation with the Office of Farm Management and Farm Economics.

3. A study of the history of land prices is now being made, Knox County being chosen as the area to be studied. This study is in coöperation with the Office of Farm Management and Farm Economics, and one man is devoting his time to securing the field data. These data are being gotten from the county register's books, real estate firms and individual farmers.

4. The field work of a farm management survey of a typical section of the East Tennessee Valley has been completed and the tabulations are in process.

5. New work, undertaken during the coming year, will be closely coördinated with the projects mentioned above.

6. Extension work consists of marketing, to which one man gives full time, farm organization and cropping systems, and farm accounting.

C. E. ALLRED.

COLLEGE OF AGRICULTURE,
KNOXVILLE, TENN.

WISCONSIN.

The investigational work of the Department of Agricultural Economics at the University is divided into four main divisions:

1. Land Economics, including credit.
2. Marketing.
3. Farm Organization and Accounting.
4. Country Life.

At the present time studies are under way in all of those lines. A survey of farm tenure in two selected districts has been completed and the data tabulated. This study covers the history of farm tenure and credit for a period of ten years on about 450 farms.

103830

In marketing several studies are in progress. One on the marketing of milk through the condenseries; one on marketing wool in the Middle West; one on marketing live stock. The latter two studies are comprehensive and will occupy the time of several men for the greater part of a year.

A study of farm organization in coöperation with the Office of Farm Management has been started in Walworth County. A survey was made in August and a route was started in October. The intention is to get complete costs and income data, though the marketing of milk is the central feature of farming in that district. The financial requirements and financial results will be discovered as fully as circumstances permit.

In country life the work at present centers in a survey of Dane County, made under the direction of Dr. C. J. Galpin. The data of this survey are being worked and other data gathered. An attempt is being made to answer the question, What is a community? Primary groups are being identified and their functions explained. The work is in coöperation with the Office of Farm Management and Farm Economics.

Extension work is done by the whole department, each man taking care of the calls which pertain to his own field. In addition to this one man is employed full time as a farm management demonstrator in coöperation with the States Relation Service.

B. H. HIBBARD.

UNIVERSITY OF WISCONSIN,
MADISON.

This completes the publication begun last year of brief statements relating to the programs of work in farm management and farm economics in the State agricultural colleges.

We want the workers in this field to keep us informed of changes in their programs. May we have this year a brief statement of programs for marketing investigations in each State in which the marketing work has not been outlined in the program of work in farm management and farm economics?

EDITOR.

THE NATIONAL AGRICULTURAL CONFERENCE.

The National Agricultural Conference, called at President Harding's request by Secretary of Agriculture Wallace during the week beginning January 23, served to focus attention of the country on the agricultural situation.

A total of 336 delegates were in attendance, comprising representatives of farm organizations, farm papers, State agricultural colleges and departments, the grain, fertilizer, machinery, and allied business interests, and agricultural interests generally throughout the country. The intention, as expressed by Secretary Wallace, was to bring together a group thoroughly capable of passing on the many phases of problems affecting agricultural production and marketing.

The Conference was addressed upon opening by President Harding. The President's address was comprehensive, was well received, and in a measure struck a keynote for much of the proceedings. Representative Sidney Anderson, Chairman of the Congressional Joint Commission of Agricultural Inquiry, ably presided over the Conference as Chairman.

The first two days were mainly devoted to addresses by agricultural leaders from many sections of the country, presenting the facts as to current conditions and outlining some of the most important needs and problems before the country.

Following this the Conference broke up into twelve committees. For three days these committees acted, reported, and their reports were debated by the main body.

While the Conference presented a clear-cut picture of the depression which has affected agriculture for the past year, its recommendations were not directed entirely to relief of an emergency as such. Perhaps its most significant work lay rather in presentation of fundamental economic relationships between agriculture and other elements in the country, and in attempts to formulate some constructive lines of policy looking to the national welfare.

A considerable number of resolutions were presented in committee reports and passed. In general, however, the outstanding action of the Conference revolved about four main propositions, namely: More adequate financing for agriculture; insistence on cheaper transporta-

tion and distribution costs; development of coöperative organization and freedom from legislative restraints thereon; recognition and fair adjustment of the farmer's economic status relative to other groups.

Some of the chief resolutions passed included:

Enactment of laws, state and national, authorizing coöperative marketing.

Amendment to warehouse act facilitating the financing of stored crops and better protection of such crops.

Better enforcement of State cold-storage laws and the enactment of a Federal law.

Establishment of more Federal standards for farm products.

Passage of laws prohibiting interstate traffic and manufacture of filled milk.

Legislation compelling truthful labeling of raw and manufactured products such as truth-in-fabric bill now pending.

Investigation by the Interstate Commerce Commission of the advisability of extending preferential rates to agricultural products for the purpose of promoting foreign trade.

Extension of the provision of the Webb-Pomerene Act which provides for combination of concerns for export trade in order to meet competition of consolidated purchasing of other countries.

Tariff protection for agriculture equal to that extended to other industries, establishment of tariff board to administer a permanent flexible tariff law with an anti-dumping provision.

Importation of potash free of tariff.

Increased support of the International Agricultural Institute at Rome and appointment of agricultural attachés to foreign embassies.

Improved and greatly extended market reports on crops and live stock and the taking of census every fifth year.

Congressional legislation to meet the need for agricultural credit running from six months to three years such as is provided in the recommendations of the Congressional Joint Agricultural Commission; if this form of credits be not made available, the War Finance Corporation should continue to function until such time as may seem necessary and proper.

Amendment of the Federal Reserve Act so as to give Federal Reserve Banks authority to buy and sell notes secured by warehouse receipts covering readily marketable, non-perishable, agricultural staples or live stock, of the kinds and maturity now eligible for rediscount.

Recognition of agriculture and merchandizing and manufacturing

in the selection of the Federal Reserve Board and directors of Federal Reserve Banks.

Increasing the individual borrowing limit from Federal Farm Loans from \$10,000 to \$25,000.

Congressional amendment to the joint-stock land banks so the banks may issue bonds to amount to twenty times their capital.

Extension of the activities of the Federal Farm Loan System so it may lend upon all of the commodities which the farmer usually puts up as collateral.

Reduction of freight rates immediately to rates effective August 25, 1922.

Federal aid in highway building and farm-to-market roads and continuation of this policy for a definite period, so States may plan adequate coöperation.

The acceptance of Henry Ford's offer to lease dam at Muscle Shoals, Alabama, and manufacture fertilizer.

Retaining all bureaus of Department of Agriculture in that department.

Establishment of a National Agricultural Advisory Council.

Appointment of a National Land Commission to classify land areas. Determination of a policy of reclamation which shall be coördinate with the need for agricultural land and further economic conditions.

Effective legislation for stopping devastation of forests and a national consciousness of forest problems.

Extension of research work and increase of area devoted to forests.

Improvement of rural conditions and farm home life.

More research and agricultural educational activities, particularly an enlargement of agencies for gathering and disseminating accurate statistics on production, marketing, and economic phases of agriculture in general.

FARM ECONOMIC NEWS NOTES.

The Department of Agricultural Economics and Farm Management at Cornell University announces a strong group of courses in economic subjects related to agriculture in the next summer session, July 8 to August 18, 1922. These courses are planned particularly to meet the needs of those who desire additional training in agricultural economics, farm management, or marketing, but who can not get away from their present positions for a longer period. The courses offered include a course in farm management to be given by Dr. G. F. Warren of Cornell University, one in agricultural economics to be given by Dr. T. N. Carver of Harvard University, one in marketing to be given by Professor Asher Hobson of Columbia University, and a general course in the public problems of agriculture to be given by the three professors named, in collaboration with as many as possible other prominent leaders in national agriculture. These four courses are so arranged that the entire group may be elected by one person, or, if desired, courses in other departments may be elected in place of any one of them. Announcements of courses and further information may be obtained from the Secretary of the College of Agriculture or from the Department of Agricultural Economics and Farm Management at Cornell University, Ithaca, N. Y.

The College of Agriculture of the University of California has added a seventh grouping of subjects to the six which, for two years past, have been open for students. This seventh group is called "Rural Social Economics" and embraces the departments concerned with the giving of courses in Farm Management, Rural Institutions, Agricultural Education, and Agricultural Extension. By this new arrangement the college provides an opportunity for students to major or to pursue graduate studies in any one of these subjects. By this action the work of Dean Thomas F. Hunt, Professor F. L. Griffin, Dr. E. Mead, and Professor R. L. Adams is grouped. The six other groups are Agronomy, Horticulture, Animal Husbandry, Agricultural Science, Forestry, and Landscape Gardening.

